# 1NC

## 1

### CP

#### CP Text: States ought to call a global constitutional convention and establish a constitution reflecting intergenerational concern with exclusive authority to end private appropriation of outer space by ruling that it violates the non-appropriations clause of the OST and bind participating bodies to its result.

#### Normal means has the plan implemented through the *Committee on the Peaceful use of Outer Space.*

Halstead 10—(B.S., Psychology, The University of Alabama; J.D., The University of Alabama School of Law; LL.M., Institute of Air and Space Law, McGill University; Lieutenant Colonel, U.S. Air Force Judge Advocate General's Corps). C. Brandon Halstead. 2010. "Prometheus Unbound - Proposal for a New Legal Paradigm for Air Law and Space Law: Orbit Law," Journal of Space Law 36, no. 1, 143-206

The debate on how to distinguish airspace from outer space is as old as the space age itself. The problems emerging from space exploration first entered the agenda of the United Nations in 1957, and were later placed on the agenda before the General Assembly through the establishment of an Ad Hoc Committee on the Peaceful Uses of Outer Space (COPUOS) in 1958.' Although this Committee initially focused on the debate of disarmament, its status was later made permanent in 1961 while its charter was expanded to include examination of all issues relating to the field of exploration and use of outer space by governmental and non-governmental organizations.16 In 1962 the Scientific and Technical Sub-Committee and Legal Sub-Committee began their true substantive work and became the main center of international cooperation and coordination for exploration of peaceful uses of outer space." Successive sessions focused on general and specific issues of space law, including the establishment of a frontier between outer space and atmospheric space18.

#### The CP applies intergenerational equity to future generations – that’s better than trying to decide now whether the plan is beneficial across deep time – every country would say yes.

Tan 2k [David Tan, LL.M., Harvard Law School; LL.B. (Hons), B.Com., University of Melbourne. Former Tutor in Law, Trinity College, University of Melbourne, “Towards a New Regime for the Protection of Outer Space as the "Province of All Mankind",” 2000, *The Yale Journal of International Law*, Vol. 25, https://digitalcommons.law.yale.edu/cgi/viewcontent.cgi?article=1114&context=yjil]

Edith Brown Weiss has advanced the theory of “intergenerational equity,” which provides for generational rights and obligations.158 Her thesis consists of a normative framework of intersecting theories of intergenerational and intragenerational equity that are derived from an underlying planetary trust, embodying the notion that generations act as stewards to sustain the welfare and well-being of all generations. This planetary trust obliges “each generation to preserve the diversity of the resource base and to pass the planet to future generations in no worse condition than it receives it.”159 The principle of the conservation of options requires each generation “to conserve the diversity of the natural and cultural resource base, so that it does not unduly restrict the options available to future generations in solving their problems and satisfying their own values, and should be entitled to diversity comparable to that enjoyed by previous generations.”\*60 The theory of intergenerational equity is an appealing one. Unfortunately, Weiss’s model generally rests upon an intertemporal human rights model for preserving the global environment. This presents many problems, ranging from the questionable existence of the right to a decent environment to the issue of remedies in respect of claims made by future generations against present generations.161

Whether the global awareness of the harm to our sense of intergenerational identity, as evidenced by the various U.N. General Assembly resolutions and numerous international conventions, will be sufficient to mobilize the implementation and enforcement of effective legal measures on behalf of future generations is doubtful. But more importantly, the notions of intergenerational identity and sustainable development will prove to be invaluable concepts in framing the discussion in Part VI.

Current literature has concentrated on the notion of sustainable development as involving the integration of economic and environmental considerations at all levels of decision-making.162 But the outer-space environment has been largely ignored, as if it were simply economic development on Earth that must be environmentally sound. There is no reason, however, why the precautionary principles that emerge from the concept of sustainable development in the Stockholm Declaration, the Rio Declaration, and the World Charter for Nature should not apply equally to the outer-space environment. Few states, if any, will take issue with the proposition that the exploration and use of outer space should be sustainable. It is in the common interest of all states, whether spacefaring or otherwise, to subscribe to a regime that allows for the development of space activities in a manner that leaves the space environment in a substantially unimpaired condition for future generations. One might even ultimately find that the uniqueness and vulnerability of the outer-space environment demand that the international community as a whole recognize sustainable development as a “global ethic”163 that transcends terrestrial boundaries, as a peremptory norm that prohibits “policies and practices that support current living standards by depleting the productive base, including natural resources, and that leaves future generations with poorer prospects and greater risks than our own.”164 We should not confine our actions to those we are now able to determine as directly or indirectly benefiting ourselves or our descendants. On the contrary, we should “cultivate our natural sense of obligation not to act wastefully or wantonly even when we cannot calculate how such acts would make any present or future persons worse off.”165 It seems impossible to find universally agreed-upon limits on the freedom of exploration and use of outer space. Rather than focus on indeterminate rules of custom-formation, we should concentrate on establishing fair and workable arrangements and institutions that can successfully accommodate the competing interests of all nations. With these guidelines in mind, we will now examine new methods of treaty-making that will enhance the willingness of states to participate in an environmental program that seeks to achieve an acceptable balance between pollution control and freedom of space exploration.

#### That solves the aff – it addresses shared anxieties while building political consensus.

Gardiner 14 1 [Stephen M. Gardiner, Professor of Philosophy and Ben Rabinowitz Endowed Professor of Human Dimensions of the Environment at the University of Washington, Seattle, “A Call for a Global Constitutional Convention Focused on Future Generations,” 2014, *Ethics & International Affairs*, Vol. 28, Issue 3, pp. 299-315, https://doi.org/10.1017/S0892679414000379, EA]

A Constitutional Convention

In my view, the above line of reasoning leads naturally to a more specific proposal: that we—concerned individuals, interested community groups, national governments, and transnational organizations—should initiate a call for a global constitutional convention focused on future generations. This proposal has two components. The first component is procedural. The proposal takes the form of a “call to action.” It is explicitly an attempt to engage a range of actors, based on a claim that they have or should take on a set of responsibilities, and a view about how to go about discharging those responsibilities. The second component is substantive. The main focus for action is a push for the creation of a constitutional convention at the global level, whose role is to pave the way for an overall constitutional system that appropriately embodies intergenerational concern.

The substantive idea rests on several key ideas. Still, for the purposes of a basic proposal, I suggest that these be understood in a relatively open way that, as far as is practicable, does not prejudge the outcome of the convention, and especially its main recommendations. First, the convention itself should be understood as “a representative body called together for some occasional or temporary purpose” and “constituted by statute to represent the people in their primary relations.”14 Second, a constitutional system should be thought of in a minimalist sense as “a set of norms (rules, principles or values) creating, structuring, and possibly defining the limits of government power or authority.”15 Third, the “instigating” role of the convention should be to discuss, develop, make recommendations toward, and set in motion a process for the establishment of a constitution. Fourth, its primary subject matter should be the need to adequately reflect and embody intergenerational concern, where this would include at least the protection of future generations, the promotion of their interests (where “interests” is to be broadly conceived so as to include rights, claims, welfare, and so on), and the discharging of duties with respect to them. It may also (and in my view should) include some way of reflecting concern for past generations, including responsiveness to at least certain of their interests and views. However, I will leave that issue aside in what follows.

The proposal to initiate a call for a global constitutional convention has at least two attractive features. First, it is based in a deep political reality, and does not underplay the challenge. It acknowledges the problem as it is, both specific and general, and calls attention to the heart of that problem, including to the failures of the current system, the need for an alternative, and the background issue of responsibility. Moreover, though the proposal is dramatic and rhetorically eye-catching, it is so in a way that is appropriately responsive to the seriousness of the issue at hand, the persistent political inertia surrounding more modest initiatives, and the fact that (grave though concerns about it are) climate change is only one instance of the tyranny of the contemporary (and the wider perfect moral storm), and we should expect others to arise over the coming decades and centuries.

The second attractive feature of the proposal is that, though ambitious, it is not alienating. While it does not succumb to despair in the face of the challenge, neither does it needlessly polarize and divide from the outset (for example, by leaping to specific recommendations about how to fill the institutional gap). Instead, it acknowledges that there are fundamental difficulties and anxieties, but uses them to start the right kind of debate, rather than to foreclose it. As a result, the proposal is a promising candidate to serve as the subject of a wide and overlapping political consensus, at least among those who share intergenerational concern.

Selective Mirroring

To quell some initial anxieties, it is perhaps worth clarifying the open-ended and non-alienating character of the proposal. One temptation would be to view the call for a global constitutional convention as a fairly naked plea for world government, a prospect that would be deeply alienating—indeed anathema—to many. However, that is not my intention. Though it is possible that a global constitutional convention would lead in this direction, it is by no means certain.

At a minimum, no such body could plausibly recommend any form of “world government” without simultaneously advancing detailed suggestions about how to avoid the standard threats such an institution might pose. Moreover, it seems perfectly conceivable, even likely under current ways of thinking, that a global constitutional convention would pursue what we might call a selective mirroring strategy. Specifically, a convention would seek to develop a broader system of institutions and practices that reflected the desirable features of a powerful and highly centralized global authority but neutralized the standing threats posed by it (for example, it might employ familiar strategies such as the separation of powers). In all likelihood, one feature of a selective mirroring approach would be the significant preservation of existing institutions to serve as a bulwark against the excesses of any newly created ones. Whether and how such a strategy might be made effective against the perfect moral storm, and whether something closer to a “world government” would do better, would be a central issue for discussion by the convention.

#### It spills over to foster broader intergenerational representation, but independence is key

Gardiner 14 2 [Stephen M. Gardiner, Professor of Philosophy and Ben Rabinowitz Endowed Professor of Human Dimensions of the Environment at the University of Washington, Seattle, “A Call for a Global Constitutional Convention Focused on Future Generations,” 2014, *Ethics & International Affairs*, Vol. 28, Issue 3, pp. 299-315, https://doi.org/10.1017/S0892679414000379, EA]

One set of guidelines concerns how the global constitutional convention relates to other institutions. The first guideline concerns relative independence:

(1) Autonomy: Any global constitutional convention should have considerable autonomy from other institutions, and especially from those dominated by factors that generate or facilitate the tyranny of the contemporary (and the perfect moral storm, more generally).

Thus, for example, attempts should be made to insulate the global constitutional convention from too much influence from short-term and narrowly economic forces.

The second guideline concerns limits to that independence:

(2) Mutual Accountability: Any global constitutional convention should be to some extent accountable to other major institutions, and they should be accountable to it.

Thus, for example, though the global constitutional convention should not be able to decide unilaterally that national institutions should be radically supplanted, nevertheless such institutions should not have a simple veto on the recommendations of the convention, including those that would result in sharp limits to their powers.

A third guideline concerns adequacy:

(3) Functional Adequacy: The global constitutional convention should be constructed in such a way that it is highly likely to produce recommendations that are functionally adequate to the task.

Thus, for example, the tasks of the global constitutional convention should not be assigned to any currently existing body whose design and authority is clearly unsuitable. In my view, this guideline rules out proposals such as the Royal Society’s suggestion that governance of geoengineering should be taken up by the United Nations’ Commission on Sustainable Development,20 or the Secretary-General’s recommendation of a new United Nations’ High Commissioner for Future Generations.21 Though such proposals may have merit for some purposes (for example, as pragmatic, incremental suggestions to highlight the importance of intergenerational issues), they are too modest, in my opinion, to reflect the gravity of the threats posed by climate change in particular, and the perfect moral storm more generally.

Aims

A second set of guidelines concerns the aims of the global constitutional convention. Here, the perfect moral storm analysis would suggest:

(4) Comprehensiveness: The convention should be under a mandate to consider a very broad range of global, intergenerational issues, to focus on such issues at a foundational level, and to recommend institutional reform accordingly.

(5) Standing Authority: Though the convention may recommend the establishment of some temporary and issue-specific bodies, its focus should be on the establishment of institutions with standing authority over the long term.

These guidelines are significant in that they stand against existing issue-specific approaches to global and intergenerational problems, and encourage not only a less ad hoc but also a more proactive approach. In particular, the global constitutional convention might be expected to recommend institutions that would be charged with identifying, monitoring, and taking charge of intergenerational issues as such. For example, such institutions should address not only specific policy issues (such as climate change, large asteroid detection, and long-term nuclear waste) but also the need to identify similar threats before they arise.

#### Discounting future generations causes extinction – only formalizing a mechanism to weight their concerns solves

Jones et al 18 [Natalie Jones, Mark O'Brien, and Thomas Ryan, University of Cambridge, United Kingdom. Representation of future generations in United Kingdom policy-making. Futures Volume 102, September 2018, Pages 153-163. https://www.sciencedirect.com/science/article/pii/S0016328717301179#sec0005]

Global catastrophic and existential risks pose central challenges for intergenerational justice and the structure of our current democracy. The Global Challenges Report 2016 defines global catastrophic risk as risk of an ‘event or process that, were it to occur, would end the lives of approximately 10% or more of the global population, or do comparable damage’ (Global Challenges Foundation & Global Priorities Project, 2016). A subset of catastrophic risks are ‘existential’ risks, which would end human civilisation or lead to the extinction of humanity (Global Challenges Foundation & Global Priorities Project, 2016). Catastrophic and existential risks may be categorised in terms of ongoing risks, which could potentially occur in any given year (e.g. nuclear war; pandemics), versus emerging risks which may be unlikely today but will become significantly more likely in the future (e.g. catastrophic climate change; risks stemming from emerging technologies). Ongoing risks have existed for some time now and are generally well-understood. However, emerging risks, particularly those arising from technological developments, are less understood and demand increasing attention from scientists and policymakers. These technological developments include advances in synthetic biology, geoengineering, distributed manufacturing and artificial intelligence (AI) (Global Priorities Project, Future of Humanity Institute, Oxford Martin School, Centre for the Study of Existential Risk, 2014). Although the impact of these technologies is still very uncertain, expert estimates suggest a non-negligible probability of catastrophic harm.

In this article we rely on two main premises. The first is that future generations are under-represented in current political structures partly due to political ‘short-termism’ or ‘presentism’ (Thompson, 2010). Governments primarily focus on short-term concerns, which mean that they may systematically neglect global catastrophic risks and, accordingly, future generations (Global Priorities Project et al., 2014). The problem of presentism transcends political divisions: people across the political spectrum are concerned about its effects, and should care about mitigating global catastrophic risks. This situation is exacerbated in that the good of mitigating global catastrophic and existential risks is typically global. Individual political actors (even whole countries) bear many costs in providing for such goods, whereas the benefits are dispersed globally. In addition to the benefits of mitigating existential risks being global, many of the beneficiaries are future people who do not exist presently and as such have no voice in the political process. There is a clear lack of incentives to mitigate such risks, and market failure should be expected (Beckstead, 2013).

The second key assumption is that we as a society consider the rights and interests of future generations to be important. It is beyond the scope of this paper to present a complete account of the philosophical arguments on this matter. It is sufficient to note that although significant philosophical problems have been pointed out, chiefly due to the fact that the actions of present people have a causal impact on the values, number and identity of future individuals (Parfit, 1984), there are several theories of intergenerational justice that may support this assumption (Gosseries, 2008).

The need to include explicit pathways in governance structures for accountability to the rights and needs of future generations has been noted (Global Priorities Project et al., 2014). Some thought has been put into how future generations may be represented in relation to environmental risks such as climate change, resource depletion and biodiversity loss; this research is reflected in the sustainable development literature (Brown Weiss, 1990). However, this problem has not been explored in relation to society’s burgeoning awareness of technology-related catastrophic and existential risks. In addition, such pathways have not been fully explored in the United Kingdom (UK) context. This policy paper hopes to fill this gap in the literature.

## 2

### FW

#### Framework – the role of the judge and ballot is to determine whether the plan is a good idea through evaluation of consequences.

#### A] Don’t let them weigh the sum total of their impact—they only get to weigh the amount solved by the affirmative. Filter the debate through solvency—there’s no impact if they don’t solve it

#### B] No performative offense, only offense from the plan—it explodes predictable limits, spiking out of neg ground making any discussion qualitatively worse

#### The standard is maximizing expected well-being.

#### 1] Extinction outweighs.

MacAskill 14 [William, Oxford Philosopher and youngest tenured philosopher in the world, Normative Uncertainty, 2014]

The human race might go extinct from a number of causes: asteroids, supervolcanoes, runaway climate change, pandemics, nuclear war, and the development and use of dangerous new technologies such as synthetic biology, all pose risks (even if very small) to the continued survival of the human race.184 And different moral views give opposing answers to question of whether this would be a good or a bad thing. It might seem obvious that human extinction would be a very bad thing, both because of the loss of potential future lives, and because of the loss of the scientific and artistic progress that we would make in the future. But the issue is at least unclear. The continuation of the human race would be a mixed bag: inevitably, it would involve both upsides and downsides. And if one regards it as much more important to avoid bad things happening than to promote good things happening then one could plausibly regard human extinction as a good thing.For example, one might regard the prevention of bads as being in general more important that the promotion of goods, as defended historically by G. E. Moore,185 and more recently by Thomas Hurka.186 One could weight the prevention of suffering as being much more important that the promotion of happiness. Or one could weight the prevention of objective bads, such as war and genocide, as being much more important than the promotion of objective goods, such as scientific and artistic progress. If the human race continues its future will inevitably involve suffering as well as happiness, and objective bads as well as objective goods. So, if one weights the bads sufficiently heavily against the goods, or if one is sufficiently pessimistic about humanity’s ability to achieve good outcomes, then one will regard human extinction as a good thing.187 However, even if we believe in a moral view according to which human extinction would be a good thing, we still have strong reason to prevent near-term human extinction. To see this, we must note three points. First, we should note that the extinction of the human race is an extremely high stakes moral issue. Humanity could be around for a very long time: if humans survive as long as the median mammal species, we will last another two million years. On this estimate, the number of humans in existence in the The future, given that we don’t go extinct any time soon, would be 2×10^14. So if it is good to bring new people into existence, then it’s very good to prevent human extinction. Second, human extinction is by its nature an irreversible scenario. If we continue to exist, then we always have the option of letting ourselves go extinct in the future (or, perhaps more realistically, of considerably reducing population size). But if we go extinct, then we can’t magically bring ourselves back into existence at a later date. Third, we should expect ourselves to progress, morally, over the next few centuries, as we have progressed in the past. So we should expect that in a few centuries’ time we will have better evidence about how to evaluate human extinction than we currently have. Given these three factors, it would be better to prevent the near-term extinction of the human race, even if we thought that the extinction of the human race would actually be a very good thing. To make this concrete, I’ll give the following simple but illustrative model. Suppose that we have 0.8 credence that it is a bad thing to produce new people, and 0.2 certain that it’s a good thing to produce new people; and the degree to which it is good to produce new people, if it is good, is the same as the degree to which it is bad to produce new people, if it is bad. That is, I’m supposing, for simplicity, that we know that one new life has one unit of value; we just don’t know whether that unit is positive or negative. And let’s use our estimate of 2×10^14 people who would exist in the future, if we avoid near-term human extinction. Given our stipulated credences, the expected benefit of letting the human race go extinct now would be (.8-.2)×(2×10^14) = 1.2×(10^14). Suppose that, if we let the human race continue and did research for 300 years, we would know for certain whether or not additional people are of positive or negative value. If so, then with the credences above we should think it 80% likely that we will find out that it is a bad thing to produce new people, and 20% likely that we will find out that it’s a good thing to produce new people. So there’s an 80% chance of a loss of 3×(10^10) (because of the delay of letting the human race go extinct), the expected value of which is 2.4×(10^10). But there’s also a 20% chance of a gain of 2×(10^14), the expected value of which is 4×(10^13). That is, in expected value terms, the cost of waiting for a few hundred years is vanishingly small compared with the benefit of keeping one’s options open while one gains new information.

#### 2] It's the only static category – even if life is bad now.

Tännsjö 11 (Torbjörn, the Kristian Claëson Professor of Practical Philosophy at Stockholm University, “Shalt Thou Sometimes Murder? On the Ethics of Killing,” <http://people.su.se/~jolso/HS-texter/shaltthou.pdf>) //BS 1-27-2018

\*\*Bracketed to avoid triggers

I suppose it is correct to say that, if Schopenhauer is right, if life is never worth living, then according to utilitarianism we should all [die] commit suicide and put an end to humanity. But this does not mean that, each of us should commit suicide. I commented on this in chapter two when I presented the idea that utilitarianism should be applied, not only to individual actions, but to collective actions as well.¶ It is a well-known fact that people rarely commit suicide. Some even claim that no one who is mentally sound commits suicide. Could that be taken as evidence for the claim that people live lives worth living? That would be rash. Many people are not utilitarians. They may avoid suicide because they believe that it is morally wrong to kill oneself. It is also a possibility that, even if people lead lives not worth living, they believe they do. And even if some may believe that their lives, up to now, have not been worth living, their future lives will be better. They may be mistaken about this. They may hold false expectations about the future.¶ From the point of view of evolutionary biology, it is natural to assume that people should rarely commit suicide. If we set old age to one side, it has poor survival value (of one’s genes) to kill oneself. So it should be expected that it is difficult for ordinary people to kill themselves. But then theories about cognitive dissonance, known from psychology, should warn us that we may come to believe that we live better lives than we do.¶ My strong belief is that most of us live lives worth living. However, I do believe that our lives are close to the point where they stop being worth living. But then it is at least not very far-fetched to think that they may be worth not living, after all. My assessment may be too optimistic.¶ Let us just for the sake of the argument assume that our lives are not worth living, and let us accept that, if this is so, we should all kill ourselves. As I noted above, this does not answer the question what we should do, each one of us. My conjecture is that we should not [die] commit suicide. The explanation is simple. If I [die] kill myself, many people will suffer. Here is a rough explanation of how this will happen: ¶ ... suicide “survivors” confront a complex array of feelings. Various forms of guilt are quite common, such as that arising from (a) the belief that one contributed to the suicidal person's anguish, or (b) the failure to recognize that anguish, or (c) the inability to prevent the suicidal act itself. Suicide also leads to rage, loneliness, and awareness of vulnerability in those left behind. Indeed, the sense that suicide is an essentially selfish act dominates many popular perceptions of suicide. ¶ The fact that all our lives lack meaning, if they do, does not mean that others will follow my example. They will go on with their lives and their false expectations — at least for a while devastated because of my suicide. But then I have an obligation, for their sake, to go on with my life. It is highly likely that, by committing suicide, I create more suffering (in their lives) than I avoid (in my life).

#### 3] Existential risks are non-linear and irreversible – peer-reviewed science proves they’re probable – psychological and social biases skew calculus to threat deflation.

Pamlin and Armstrong 15 (Dennis, Executive Project Manager of Global Risks @ Global Challenges Foundation, and Stuart, James Martin Research Fellow @ Oxford, “Global Challenges: 12 Risks that threaten human civilization: The case for a new risk category,” <https://api.globalchallenges.org/static/wp-content/uploads/12-Risks-with-infinite-impact.pdf>) //BS 4-1-2018 [brackets for] ~~ableist language~~

2. Risks with infinite impact: A new category of risks “Most risk management is really just advanced contingency planning and disciplining yourself to realise that, given enough time, very low probability events not only can happen, but they absolutely will happen.” Lloyd Blankfein, Goldman Sachs CEO, July 2013 1 Risk = Probability × Impact Impacts where civilisation collapses to a state of great suffering and do not recover, or a situation where all human life end, are defined as infinite as the result is irreversible and lasts forever. A new group of global risks This is a report about a limited number of global risks – that can be identified through a scientific and transparent process – with impacts of a magnitude that pose a threat to human civilisation, or even possibly to all human life. With such a focus it may surprise some readers to find that the report’s essential aim is to inspire action and dialogue as well as an increased use of the methodologies used for risk assessment. The real focus is not on the almost unimaginable impacts of the risks the report outlines. Its fundamental purpose is to encourage global collaboration and to use this new category of risk as a driver for innovation. The idea that we face a number of global challenges threatening the very basis of our civilisation at the beginning of the 21st century is well accepted in the scientific community, and is studied at a number of leading universities.2 But there is still no coordinated approach to address this group of challenges and turn them into opportunities for a new generation of global cooperation and the creation of a global governance system capable of addressing the greatest challenges of our time. This report has, to the best of our knowledge, created the first science-based list of global risks with a potentially infinite impact and has made the first attempt to provide an initial overview of the uncertainties related to these risks as well as rough quantifications for the probabilities of these impacts. What is risk? Risk is the potential of losing something of value, weighed against the potential to gain something of value. Every day we make different kinds of risk assessments, in more or less rational ways, when we weigh different options against each other. The basic idea of risk is that an uncertainty exists regarding the outcome and that we must find a way to take the best possible decision based on our understanding of this uncertainty.3 To calculate risk the probability of an outcome is often multiplied by the impact. The impact is in most cases measured in economic terms, but it can also be measured in anything we want to avoid, such as suffering. At the heart of a risk assessment is a probability distribution, often described by a probability density function4; see figure X for a graphic illustration. The slightly tilted bell curve is a common probability distribution, but the shape differs and in reality is seldom as smooth as the example. The total area under the curve always represents 100 percent, i.e. all the possible outcomes fit under the curve. In this case (A) represents the most probable impact. With a much lower probability it will be a close to zero impact, illustrated by (B). In the same way as in case B there is also a low probability that the situation will be very significant, illustrated by (C). Figure 1: Probability density function The impacts (A), (B) and (C) all belong to the same category, normal [common] impacts: the impacts may be more or less serious, but they can be dealt with within the current system. The impacts in this report are however of a special kind. These are impacts where everything will be lost and the situation will not be reversible, i.e challenges with potentially infinite impact. In insurance and finance this kind of risk is called “risk of ruin”, an impact where all capital is lost.5 This impact is however only infinite for the company that is losing the money. From society’s perspective, that is not a special category of risk. In this report the focus is on the “risk of ruin” on a global scale and on a human level, in the worst case this is when we risk the extinction of our own species. On a probability curve the impacts in this report are usually at the very far right with a relatively low probability compared with other impacts, illustrated by (D) in Figure 2. Often they are so far out on the tail of the curve that they are not even included in studies. For each risk in this report the probability of an infinite impact is very low compared to the most likely outcome. Some studies even indicate that not all risks in this report can result in an infinite impact. But a significant number of peer-reviewed reports indicate that those impacts not only can happen, but that their probability is increasing due to unsustainable trends. The assumption for this report is that by creating a better understanding of our scientific knowledge regarding risks with a potentially infinite impact, we can inspire initiatives that can turn these risks into drivers for innovation. Not only could a better understanding of the unique magnitude of these risks help address the risks we face, it could also help to create a path towards more sustainable development. The group of global risks discussed in this report are so different from most of the challenges we face that they are hard to comprehend. But that is also why they can help us to build the collaboration we need and drive the development of further solutions that benefit both people and the planet. As noted above, none of the risks in this report is likely to result directly in an infinite impact, and some are probably even physically incapable of doing so. But all are so significant that they could reach a threshold impact able to create social and ecological instability that could trigger a process which could lead to an infinite impact. For several reasons the potentially infinite impacts of the risks in this report are not as well known as they should be. One reason is the way that extreme impacts are often masked by most of the theories and models used by governments and business today. For example, the probability of extreme impacts is often below what is included in studies and strategies. The tendency to exclude impacts below a probability of five percent is one reason for the relative “invisibility” of infinite impacts. The almost standard use of a 95% confidence interval is one reason why low-probability high-impact events are often ignored.6 Figure 2: Probability density function with tail highlighted Climate change is a good example, where almost all of the focus is on the most likely scenarios and there are few studies that include the low-probability high-impact scenarios. In most reports about climate impacts, the impacts caused by warming beyond five or six degrees Celsius are even omitted from tables and graphs even though the IPCC’s own research indicates that the probability of these impacts are often between one and five percent, and sometimes even higher.7 Other aspects that contribute to this relative invisibility include the fact that extreme impacts are difficult to translate into monetary terms, they have a global scope, and they often require a time-horizon of a century or more. They cannot be understood simply by linear extrapolation of current trends, and they lack historical precedents. There is also the fact that the measures required to significantly reduce the probability of infinite impacts will be radical compared to a business-as-usual scenario with a focus on incremental changes. The exact probability of a specific impact is difficult or impossible to estimate.8 However, the important thing is to establish the current magnitude of the probabilities and compare them with the probabilities for such impacts we cannot accept. A failure to provide any estimate for these risks often results in strategies and priorities defined as though the probability of a totally unacceptable outcome is zero. An approximate number for a best estimate also makes it easier to understand that a great uncertainty means the actual probability can be both much higher and much lower than the best estimate. It should also be stressed that uncertainty is not a weakness in science; it always exists in scientific work. It is a systematic way of understanding the limitations of the methodology, data, etc.9 Uncertainty is not a reason to wait to take action if the impacts are serious. Increased uncertainty is something that risk experts, e.g. insurance experts and security policy experts, interpret as a signal for action. A contrasting challenge is that our cultural references to the threat of infinite impacts have been dominated throughout history by religious groups seeking to scare society without any scientific backing, often as a way to discipline people and implement unpopular measures. It should not have to be said, but this report is obviously fundamentally different as it focuses on scientific evidence from peer-reviewed sources. Infinite impact The concept infinite impact refers to two aspects in particular; the terminology is not meant to imply a literally infinite impact (with all the mathematical subtleties that would imply) but to serve as a reminder that these risks are of a different nature. Ethical These are impacts that threaten the very survival of humanity and life on Earth – and therefore can be seen as being infinitely negative from an ethical perspective. No positive gain can outweigh even a small probability for an infinite negative impact. Such risks require society to ensure that we eliminate these risks by reducing the impact below an infinite impact as a top priority, or at least do everything we can to reduce the probability of these risks. As some of these risks are impossible to eliminate today it is also important to discuss what probability can right now be accepted for risks with a possible infinite impact. Economic Infinite impacts are beyond what most traditional economic models today are able to cope with. The impacts are irreversible in the most fundamental way, so tools like cost-benefit assessment seldom make sense. To use discounting that makes infinite impacts (which could take place 100 years or more from now and affect all future generations) close to invisible in economic assessments, is another example of a challenge with current tools. So while tools like cost-benefit models and discounting can help us in some areas, they are seldom applicable in the context of infinite impacts. New tools are needed to guide the global economy in an age of potential infinite impacts. See chapter 2.2.2 for a more detailed iscussion. Roulette and Russian roulette When probability and normal risks are discussed the example of a casino and roulette is often used. You bet something, then spin the wheel and with a certain probability you win or lose. You can use different odds to discuss different kinds of risk taking. These kinds of thought experiment can be very useful, but when it comes to infinite risks these gaming analogies become problematic. For infinite impact a more appropriate analogy is probably Russian roulette. But instead of “normal” Russian roulette where you only bet your own life you are now also betting everyone you know and everyone you don’t know. Everyone alive will die if you lose. There will be no second chance for anyone as there will be no future generations; humanity will end with your loss. What probability would you accept for different sums of money if you played this version of Russian roulette? Most people would say that it is stupid and – no matter how low the probability is and no matter how big the potential win is – this kind of game should not be played, as it is unethical. Many would also say that no person should be allowed to make such a judgment, as those who are affected do not have a say. You could add that most of those who will lose from it cannot say anything as they are not born and will never exist if you lose. The difference between ordinary roulette and “allhumanity Russian roulette” is one way of illustrating the difference in nature between a “normal” risk that is reversible, and a risk with an infinite impact. An additional challenge in acknowledging the risks outlined in this report is that many of the traditional risks including wars and violence have decreased, even though it might not always looks that way in media.10 So a significant number of experts today spend a substantial amount of time trying to explain that much of what is discussed as dangerous trends might not be as dangerous as we think. For policy makers listening only to experts in traditional risk areas it is therefore easy to get the impression that global risks are becoming less of a problem. The chain of events that could result in infinite impacts in this report also differ from most of the traditional risks, as most of them are not triggered by wilful acts, but accidents/mistakes. Even the probabilities related to nuclear war in this report are to a large degree related to inadvertent escalation. As many of the tools to analyse and address risks have been developed to protect nations and states from attacks, risks involving accidents tend to get less attention. This report emphasises the need for an open and democratic process in addressing global challenges with potentially infinite impact. Hence, this is a scientifically based invitation to discuss how we as a global community can address what could be considered the greatest challenges of our time. The difficulty for individual scientists to communicate a scientific risk approach should however not be underestimated. Scientists who today talk about low-probability impacts, that are serious but still far from infinite, are often accused of pessimism and scaremongering, even if they do nothing but highlight scientific findings.11 To highlight infinite impacts with even lower probability can therefore be something that a scientist who cares about his/her reputation would want to avoid. In the media it is still common to contrast the most probable climate impact with the probability that nothing, or almost nothing, will happen. The fact that almost nothing could happen is not wrong in most cases, but it is unscientific and dangerous if different levels of probability are presented as equal. The tendency to compare the most probable climate impact with the possibility of a low or no impact also results in a situation where low-probability high-impact outcomes are often totally ignored. An honest and scientific approach is to, whenever possible, present the whole probability distribution and pay special attention to unacceptable outcomes. The fact that we have challenges that with some probability might be infinite and therefore fundamentally irreversible is difficult to comprehend, and physiologically they are something our brains are poorly equipped to respond to, according to evolutionary psychologists.12 It is hard for us as individuals to grasp that humanity for the first time in its history now has the capacity to create such catastrophic outcomes. Professor Marianne Frankenhaeuser, former head of the psychology division, Karolinska Institute, Stockholm, put it this way: “Part of the answer is to be found in psychological defence mechanisms. The nuclear threat is collectively denied, because to face it would force us to face some aspects of the world’s situation which we do not want to recognise.” 13 This psychological denial may be one reason why there is a tendency among some stakeholders to confuse “being optimistic” with denying what science is telling us, and ignoring parts of the probability curve.14 Ignoring the fact that there is strong scientific evidence for serious impacts in different areas, and focusing only on selected sources which suggest that the problem may not be so serious, is not optimistic. It is both unscientific and dangerous.15 A scientific approach requires us to base our decisions on the whole probability distribution. Whether it is possible to address the challenge or not is the area where optimism and pessimism can make people look at the same set of data and come to different conclusions. Two things are important to keep in mind: first, that there is always a probability distribution when it comes to risk; second, that there are two different kinds of impacts that are of interest for this report. The probability distribution can have different shapes but in simplified cases the shape tends to look like a slightly modified clock (remember figure 1). In the media it can sound as though experts argue whether an impact, for example a climate impact or a pandemic, will be dangerous or not. But what serious experts discuss is the probability of different oucomes. They can disagree on the shape of the curve or what curves should be studied, but not that a probability curve exists. With climate change this includes discussions about how sensitive the climate is, how much greenhouse gas will be emitted, and what impacts that different warmings will result in. Just as it is important not to ignore challenges with potentially infinite impacts, it is also important not to use them to scare people. Dramatic images and strong language are best avoided whenever possible, as this group of risks require sophisticated strategies that benefit from rational arguments. Throughout history we have seen too many examples when threats of danger have been damagingly used to undermine important values. The history of infinite impacts: The LA-602 document The understanding of infinite impacts is very recent compared with most of our institutions and laws. It is only 70 years ago that Edward Teller, one of the greatest physicists of his time, with his back-of-the-envelope calculations, produced results that differed drastically from all that had gone before. His calculations indicated that the explosion of a nuclear bomb – a creation of some of the brightest minds on the planet, including Teller himself – could result in a chain reaction so powerful that it would ignite the world’s atmosphere, thereby ending human life on Earth.16 Robert Oppenheimer, who led the Manhattan Project to develop the nuclear bomb, halted the project to see whether Teller’s calculations were correct.17 The resulting document, LA- 602: Ignition of the Atmosphere with Nuclear Bombs, concluded that Teller was wrong, But the sheer complexity drove them to end their assessment by writing that “further work on the subject [is] highly desirable”.18 The LA-602 document can be seen as the first scientific global risk report addressing a category of risks where the worst possible impact in all practical senses is infinite.19 Since the atomic bomb more challenges have emerged with potentially infinite impact. Allmost all of these new challenges are linked to the increased knowledge, economic and technical development that has brought so many benefits. For example, climate change is the result of the industrial revolution and development that was, and still is, based heavily on fossil fuel. The increased potential for global pandemics is the result of an integrated global economy where goods and services move quickly around the world, combined with rapid urbanisation and high population density. In parallel with the increased number of risks with possible infinite impact, our capacity to analyse and solve them has greatly increased too. Science and technology today provides us with knowledge and tools that can radically reduce the risks that historically have been behind major extinctions, such as pandemics and asteroids. Recent challenges like climate change, and emerging challenges like synthetic biology and nanotechnology, can to a large degree be addressed by smart use of new technologies, new lifestyles and institutional structures. It will be hard as it will require collaboration of a kind that we have not seen before. It will also require us to create systems that can deal with the problems before they occur. The fact that the same knowledge and tools can be both a problem and a solution is important to understand in order to avoid polarisation. Within a few decades, or even sooner, many of the tools that can help us solve the global challenges of today will come from fields likely to provide us with the most powerful instruments we have ever had – resulting in their own sets of challenges. Synthetic biology, nanotechnology and artificial intelligence (AI) are all rapidly evolving fields with great potential. They may help solve many of today’s main challenges or, if not guided in a benign direction, may result in catastrophic outcomes. The point of departure of this report is the fact that we now have the knowledge, economic resources and technological ability to reduce most of the greatest risks of our time. Conversely, the infinite impacts we face are almost all unintended results of human ingenuity. The reason we are in this situation is that we have made progress in many areas without addressing unintended low-probability high-impact consequences. Creating innovative and resilient systems rather than simply managing risk would let us focus more on opportunities. But the resilience needed require moving away from legacy systems is likely to be disruptive, so an open and transparent discussion is needed regarding the transformative solutions required. Figure 3: Probability density function with tail and threshold highlighted [FIGURE 3 OMITTED] 2.1 Report structure The first part of the report is an introduction where the global risks with potential infinite impact are introduced and defined. This part also includes the methodology for selecting these risks, and presents the twelve risks that meet this definition. Four goals of the report are also presented, under the headings “acknowledge”, “inspire”, “connect” and “deliver”. The second part is an overview of the twelve global risks and key events that illustrate some of the work around the world to address them. For each challenge five important factors that influence the probability or impact are also listed. The risks are divided into four different categories depending on their characteristics. “Current challenges” is the first category and includes the risks that currently threaten humanity due to our economic and technological development - extreme climate change, for example, which depends on how much greenhouse gas we emit. “Exogenic challenges” includes risks where the basic probability of an event is beyond human control, but where the probability and magnitude of the impact can be influenced - asteroid impacts, for example, where the asteroids’ paths are beyond human control but an impact can be moderated by either changing the direction of the asteroid or preparing for an impact. “Emerging challenges” includes areas where technological development and scientific assessment indicate that they could both be a very important contribution to human welfare and help reduce the risks associated with current challenges, but could also result in new infinite impacts.20 AI, nanotechnology and synthetic biology are examples. “Global policy challenge” is a different kind of risk. It is a probable threat arising from future global governance as it resorts to destructive policies, possibly in response to the other challenges listed above. The third part of the report discusses the relationship between the different risks. Action to reduce one risk can increase another, unless their possible links are understood. Many solutions are also able to address multiple risks, so there are significant benefits from understanding how one relates to others. Investigating these correlations could be a start, but correlation is a linear measure and non-linear techniques may be more helpful for assessing the aggregate risk. The fourth part is an overview, the first ever to our knowledge, of the uncertainties and probabilities of global risks with potentially infinite impacts. The numbers are only rough estimates and are meant to be a first step in a dialogue where methodologies are developed and estimates refined. The fifth part presents some of the most important underlying trends that influence the global challenges, which often build up slowly until they reach a threshold and very rapid changes ensue. The sixth and final part presents an overview of possible ways forward. 2.2 Goals Goal 1: Acknowledge That key stakeholders, influencing global challenges, acknowledge the existence of the category of risks that could result in infinite impact. They should also recognice that the list of risks that belong to this category should be revised as new technologies are developed and our knowledge increases. Regardless of the risks included, the category should be given special attention in all processes and decisions of relevance. The report also seeks to demonstrate to all key stakeholders that we have the capacity to reduce, or even eliminate, most of the risks in this category. Establish a category of risks with potentially infinite impact. Before anything significant can happen regarding global risks with potentially infinite impacts, their existence must be acknowledged. Rapid technological development and economic growth have delivered unprecedented material welfare to billions of people in a veritable tide of utopias.21 But we now face the possibility that even tools created with the best of intentions can have a darker side too, a side that may threaten human civilisation, and conceivably the continuation of human life. This is what all decision-makers need to recognise. Rather than succumbing to terror, we need to acknowledge that we can let the prospect inspire and drive us forward. Goal 2: Inspire That policy makers inspire action by explaining how the probabilities and impacts can be reduced and turned into opportunities. Concrete examples of initiatives should be communicated in different networks in order to create ripple effects, with the long-term goal that all key stakeholders should be inspired to turn these risks into opportunities for positive action. Show concrete action that is taking place today. This report seeks to show that it is not only possible to contribute to reducing these risks, but that it is perhaps the most important thing anyone can spend their time on. It does so by combining information about the risks with information about individuals and groups who has made a significant contribution by turning challenges into opportunities. By highlighting concrete examples the report hopes to inspire a new generation of leaders. Goal 3: Connect That leaders in different sectors connect with each other to encourage collaboration. A specific focus on financial and security policy where significant risks combine to demand action beyond the incremental is required. Support new meetings between interested stakeholders. The nature of these risks spans countries and continents; they require action by governments and politicians, but also by companies, academics, NGOs, and many other groups. The magnitude of the possible impacts requires not only leaders to act but above all new models for global cooperation and decision-making to ensure delivery. The need for political leadership is therefore crucial. Even with those risks where many groups are involved, such as climate change and pandemics, very few today address the possibility of infinite impact aspects. Even fewer groups address the links between the different risks. There is also a need to connect different levels of work, so that local, regional, national and international efforts can support each other when it comes to risks with potentially infinite impacts. Goal 4: Deliver That concrete strategies are developed that allow key stakeholders to identify, quantify and address global challenges as well as gather support for concrete steps towards a wellfunctioning global governance system. This would include tools and initiatives that can help identify, quantify and reduce risks with potentially infinite impacts. Identify and implement strategies and initiatives. Reports can acknowledge, inspire and connect, but only people can deliver actual results. The main focus of the report is to show that actual initiatives need to be taken that deliver actual results. Only when the probability of an infinite impact becomes acceptably low, very close to zero, and/or when the maximum impact is significantly reduced, should we talk about real progress. In order to deliver results it is important to remember that global governance to tackle these risks is the way we organise society in order to address our greatest challenges. It is not a question of establishing a “world government”, it is about the way we organise ourselves on all levels, from the local to the global. The report is a first step and should be seen as an invitation to all responsible parties that can affect the probability and impact of risks with potentially infinite impacts. But its success will ultimately be measured only on how it contributes to concrete results. 2.3 Global challenges and infinite impact This chapter first introduces the concept of infinite impact. It then describes the methodology used to identify challenges with an infinite impact. It then presents risks with potentially infinite impact that the methodology results in. 2.3.1 Definition of infinite impact The specific criterion for including a risk in this report is that well-sourced science shows the challenge can have the following consequences: 22 1. Infinite impact: When civilisation collapses to a state of great suffering and does not recover, or a situation where all human life ends. The existence of such threats is well attested by science.23 2. Infinite impact threshold – an impact that can trigger a chain of events that could result first in a civilisation collapse, and then later result in an infinite impact. Such thresholds are especially important to recognise in a complex and interconnected society where resilience is decreasing.24 A collapse of civilisation is defined as a drastic decrease in human population size and political/economic/social complexity, globally for an extended time.25 The above definition means the list of challenges is not static. When new challenges emerge, or current ones fade away, the list will change. An additional criterion for including risks in this report is “human influence”. Only risks where humans can influence either the probability, the impact, or both, are included. For most risks both impact and probability can be affected, for example with nuclear war, where the number/size of weapons influences the impact and tensions between countries affects the probability. Other risks, such as a supervolcano, are included as it is possible to affect the impact through various mitigation methods, even if we currently cannot affect the probability. Risks that are susceptible to human influence are indirectly linked, because efforts to address one of them may increase or decrease the likelihood of another. 2.3.2 Why use “infinite impact” as a concept? The concept of infinity was chosen as it reflects many of the challenges, especially in economic theory, to addressing these risks as well as the need to question much of our current way of thinking. The concept of a category of risks based on their extreme impact is meant to provide a tool to distinguish one particular kind of risk from others. The benefit of this new concept should be assessed based on two things. First, does the category exist, and second, is the concept helpful in addressing these risks? The report has found ample evidence that there are risks with an impact that can end human civilisation and even all human life. The report further concludes that a new category of risk is not only meaningful but also timely. We live in a society where global risks with potentially infinite impacts increase in both number and probability according to multiple studies. Looking ahead, many emerging technologies which will certainly provide beneficial results, might also result in an increased probability of infinite impacts.26 Over the last few years a greater understanding of low probability or unknown probability events has helped more people to understand the importance of looking beyond the most probable scenarios. Concepts like “black swans” and “perfect storms” are now part of mainstream policy and business language.27 Greater understanding of the technology and science of complex systems has also resulted in a new understanding of potentially disruptive events. Humans now have such an impact on the planet that the term “the anthropocene” is being used, even by mainstream media like The Economist.28 The term was introduced in the 90s by the Nobel Prize winner Paul Crutzen to describe how humans are now the dominant force changing the Earth’s ecosystems.29 The idea to establish a well defined category of risks that focus on risks with a potentially infinite impact that can be used as a practical tool by policy makers is partly inspired by Nick Bostrom’s philosophical work and his introduction of a risk taxonomy that includes an academic category called “existential risks”.30 Introducing a category with risks that have a potentially infinite impact is not meant to be a mathematical definition; infinity is a thorny mathematical concept and nothing in reality can be infinite.31 It is meant to illustrate a singularity, when humanity is threatened, when many of the tools used to approach most challenges today become problematic, meaningless, or even counterproductive. The concept of an infinite impact highlights a unique situation where humanity itself is threatened and the very idea of value and price collapses from a human perspective, as the price of the last humans also can be seen to be infinite. This is not to say that those traditional tools cannot still be useful, but with infinite impacts we need to add an additional set of analytical tools. Life Value The following estimates have been applied to the value of life in the US. The estimates are either for one year of additional life or for the statistical value of a single life. – $50,000 per year of quality life (international standard most private and government-run health insurance plans worldwide use to determine whether to cover a new medical procedure) – $129,000 per year of quality life (based on analysis of kidney dialysis procedures by Stefanos Zenios and colleagues at Stanford Graduate School of Business) – $7.4 million (Environmental Protection Agency) – $7.9 million (Food and Drug Administration) – $6 million (Transportation Department) – $28 million (Richard Posner based on the willingness to pay for avoiding a plane crash) Source: Wikipedia: Value of life http://en.wikipedia.org/wiki/Value\_of\_life US EPA: Frequently Asked Questions on Mortality Risk Valuation http://yosemite.epa.gov/EE%5Cepa%5Ceed.nsf/webpages/MortalityRiskValuation.html Posner, Richard A. Catastrophe: risk and response. Oxford University Press, 2004 Some of the risks, including nuclear war, climate change and pandemics, are often included in current risk overviews, but in many cases their possible infinite impacts are excluded. The impacts which are included are in most cases still very serious, but only the more probable parts of the probability distributions are included, and the last part of the long tail – where the infinite impact is found – is excluded.32 Most risk reports do not differentiate between challenges with a limited impact and those with a potential for infinite impact. This is dangerous, as it can mean resources are spent in ways that increase the probability of an infinite impact. Ethical aspects of infinite impact The basic ethical aspect of infinite impact is this: a very small group alive today can take decisions that will fundamentally affect all future generations. “All future generations” is not a concept that is often discussed, and for good reason. All through human history we have had no tools with a measurable global impact for more than a few generations. Only in the last few decades has our potential impact reached a level where all future generations can be affected, for the simple reason that we now have the technological capacity to end human civilisation. If we count human history from the time when we began to practice settled agriculture, that gives us about 12,000 years.33 If we make a moderate assumption that humanity will live for at least 50 million more years34 our 12,000-year history so far represents 1/4200, or 0.024%, of our potential history. So our generation has the option of risking everything and annulling 99.976% of our potential history. Comparing 0.024% with the days of a person living to 100 years from the day of conception, this would equal less than nine days and is the first stage of human embryogenesis, the germinal stage.35 Two additional arguments to treat potentially infinite impacts as a separate category are: 36 1. An approach to infinite impacts cannot be one of trial-and-error, because there is no opportunity to learn from errors. The reactive approach – see what happens, limit damage, and learn from experience – is unworkable. Instead society must be proactive. This requires foresight to foresee new types of threat and willingness to take decisive preventative action and to bear the costs (moral and economic) of such actions. 2. We cannot necessarily rely on the institutions, morality, social attitudes or national security policies that developed from our experience of other sorts of risk. Infinite impacts are in a different category. Institutions and individuals may find it hard to take these risks seriously simply because they lie outside our experience. Our collective fear-response will probably be ill-calibrated to the magnitude of threat. Economic aspects of infinite impact and discounting In today’s society a monetary value is sometimes ascribed to human life. Some experts use this method to estimate risk by assigning a monetary value to human extinction.37 We have to remember that the monetary values placed on a human life in most cases are not meant to suggest that we have actually assigned a specific value to a life. Assigning a value to a human life is a tool used in a society with a limited supply of resources or infrastructure (ambulances, perhaps) or skills. In such a society it is impossible to save every life, so some trade-off must be made.38 The US Environmental Protection Agency explains its use like this: “The EPA does not place a dollar value on individual lives. Rather, when conducting a benefit-cost analysis of new environmental policies, the Agency uses estimates of how much people are willing to pay for small reductions in their risks of dying from adverse health conditions that may be caused by environmental pollution.” 39 The fact that monetary values for human lives can help to define priorities when it comes to smaller risks does not mean that they are suitable for quite different uses. Applying a monetary value to the whole human race makes little sense to most people, and from an economic perspective it makes no sense. Money helps us to prioritise, but with no humans there would be no economy and no need for priorities. Ignoring, or discounting, future generations is actually the only way to avoid astronomical numbers for impacts that may seriously affect every generation to come. In Catastrophe: Risk and Response, Richard Posner provides a cost estimate, based on the assumption that a human life is worth $50,000, resulting in a $300 tn cost for the whole of humanity, assuming a population of six billion. He then doubles the population number to include the value of all future generations, ending up with $600 tn, while acknowledging that “without discounting, the present value of the benefits of risk-avoidance measures would often approach infinity for the type of catastrophic risk with which this book is concerned.” 40 Discounting for risks that include the possibility of an infinite impact differs from risk discounting for less serious impacts. For example the Stern Review41 prompted a discussion between its chief author, Nicholas Stern, and William Nordhaus,42 each of whom argued for different discount levels using different arguments. But neither discussed a possible infinite climate impact. An overview of the discussion by David Evans of Oxford Brookes University highlighted some of the differing assumptions.43 Two things make infinite impacts special from a discounting perspective. First, there is no way that future generations can compensate for the impact, as they will not exist. Second, the impact is something that is beyond an individual preference, as society will no longer exist. Discounting is undertaken to allocate resources in the most productive way. In cases that do not include infinite impacts, discounting “reflects the fact that there are many high-yield investments that would improve the quality of life for future generations. The discount rate should be set so that our investable funds are devoted to the most productive uses.” 44 When there is a potentially infinite impact, the focus is no longer on what investments have the best rate of return, it is about avoiding the ultimate end. While many economists shy away from infinite impacts, those exploring the potentially extreme impacts of global challenges often assume infinite numbers to make their point. Nordhaus for example writes that “the sum of undiscounted anxieties would be infinite (i.e. equal to 1 + 1 +1 + … = ∞). In this situation, most of us would dissolve in a sea of anxiety about all the things that could go wrong for distant generations from asteroids, wars, out-of-control robots, fat tails, smart dust and other disasters.” 45 It is interesting that Nordhaus himself provides very good graphs that show why the most important factor when determining actions is a possible threshold (see below Figure 4 and 5). Nordhaus was discussing climate change, but the role of thresholds is similar for most infinite impacts. The first figure is based on traditional economic approaches which assume that Nature has no thresholds; the second graph illustrates what happens with the curve when a threshold exists. As Nordhaus also notes, it is hard to establish thresholds, but if they are significant all other assumptions become secondary. The challenge that Nordhaus does not address, and which is important especially with climate change, is that thresholds become invisible in economic calculations if they occur far into the future, even if it is current actions that unbalance the system and eventually push it over the threshold.

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#### The 1AC is a misdiagnosis of the university – their techniques are enfolded within logistical transparency in which the worlds visibility and mappability is taken as ontological presumption to be achieved by techniques of resistance. The aff’s praxis of resistance is articulated through a grammar of concrete planning utilized by state governance and the neoliberal university that reproduces logistics as the terrain of the political – only a refusal of the aesthetics of planning, logistics, and transparency can facilitate fugitivity

Moten & Harney 9 – Fred Moten, professor of Performance Studies at New York University and has taught previously at University of California, Riverside, Duke University, Brown University, and the University of Iowa, and Stefano Harney, Professor of Strategic Management Education at Singapore Management University, 2009 (“Policy and Planning” Social Text 100 • Vol. 27, No. 3 • Fall 2009 Pages 182-186)

Policy is correction. Policy distinguishes itself from planning by distinguishing those who dwell in policy and x things, from those who dwell in planning and must be xed. This is the first rule of policy. It xes others. In an extension of Michel Foucault, we might say of this first rule that it remains concerned with how to be governed just right, how to x others in a position of equi- librium, even if this today requires constant recalibration. But the objects of this constant adjustment provoke this attention because they just don’t want to govern at all. And because such policy emerges materially from post-Fordist oppor- tunism, policy must optimally, for each policy maker, x others as others, as those who have not just made an error in planning (or indeed an error by planning) but who are themselves in error. And from the perspective of policy, of this post-Fordist opportunism, there is indeed something wrong with the multitude. They are out of joint — instead of constantly positing their position in contingency, they seek solidity, a place from which to plan, some ground on which to imagine, some love on which to count. Nor is this just a political problem from the point of view of policy, but an ontological one. Seeking xity, nding a steady place from which to launch a plan, hatch an escape, signals a problem of essentialism, of beings who think and act like they are something in particular, like they are somebody, although at the same time that something is, from the perspective of policy, whatever you say I am. To get these planners out of this problem of essentialism, this x- ity and repose, this security and base, they have to come to imagine they can be more, they can do more, they can change, they can be changed. Because right now, there is something wrong with them. We know there is something wrong with them because they keep making plans. And plans fail. Plans fail because that is policy. Plans must fail because planners must fail. Planners are static, essential, just surviving. They do not see clearly. They hear things. They lack perspective. They fail to see the complexity. Planners have no vision, no real hope for the future, just a plan here and now, an actually existing plan. They need hope. They need vision. They need to have their sights lifted above the furtive plans and night launches of their despairing lives. Vision. Because from the perspective of policy, it is too dark in there to see, in the black heart of the multitude. You can hear something, you can feel something, feel people going about their own business in there, feel them present at their own making. But hope can lift them above ground into the light, out of the shadows, away from these dark senses. Whether the hope is Fanonian redemption or Arendtian revaluation, policy will x these humans. Whether they lack consciousness or politics, utopianism or common sense, hope has arrived. With new vision, planners will become participants. And participants will be taught to reject essence for contingency, as if planning and improvisation, flexibility and fixity, and complexity and simplicity were opposed within an imposed composition there is no choice but to inhabit, as some exilic home. All that could not be seen in the dark heart of the multitude will be supposed absent, as policy checks its own imagination. But most of all they will participate. Policy is a mass effort. Left intellectuals will write articles in the newspapers. Philosophers will hold conferences on new utopias. Bloggers will debate. Politicians will surf. Change is the only constant here, the only constant of policy. Participating in change is the second rule of policy. Now hope is an orientation toward this participation in change, this participation as change. This is the hope policy gives to the multitude, a chance to stop digging and start circulating. Policy not only offers this hope, but enacts it. Those who dwell in policy do so not just by invoking contingency but riding it, by, in a sense, proving it. Those who dwell in policy are prepared. They are legible to change, liable to change, lendable to change. Policy is not so much a position as a disposition, a disposition toward display. This is why policy’s chief manifestation is governance. Governance should not be confused with government or governmen- tality. Governance is the new form of expropriation. It is the provocation of a certain kind of display, a display of interests as disinterestedness, a display of convertibility, a display of legibility. Governance offers a forum for policy, for bidding oneself, auctioning oneself, to post-Fordist production. Gover- nance is harvesting of immaterial labor, but a willing harvest, a death drive of labor. As capital cannot know directly affect, thought, sociality, imagi- nation, it must instead prospect for these in order to extract and abstract them as labor. This is the real bioprospecting. Governance, the voluntary but dissociative offering up of interests, willing participation in the general privacy and privation, grants capital this knowledge, this wealth-making capacity. Who is more keen on governance than the dweller in policy? On the new governance of universities, hospitals, corporations, governments, and prisoners, on the governance of NGOs, of Africa, of peace processes? Policy offers to help by offering its own interests, and if it really seeks to be valuable, provoking others to offer up their own interests, too. But governance despite its own hopes to universality is for the initi- ated, for those who know how to articulate interests disinterestedly, who know why they vote (not because someone is black or female but because he or she is smart), who have opinions and want to be taken seriously by serious people. In the meantime, policy also orders the quotidian sphere of aborted plans. Policy posits curriculum against study, child develop- ment against play, careers against jobs. It posits voice against voices, and gregariousness against friendship. Policy posits the public sphere, and the counterpublic sphere, and the black public sphere, against the illegal occupation of the illegitimately privatized. Policy is not the one against the many, the cynical against the roman- tic, or the pragmatic against the principled. It is simply baseless vision. It is against all conservation, all rest, all gathering, cooking, drinking, and smoking, if they lead to marronage. Policy’s vision is to break it up, move along, get ambition, and give it to your children. Policy’s hope is that there will be more policy, more participation, more change. However, there is also a danger in all this participation, a danger of crisis. When the multitude participates in policy without first being xed, this leads to crisis: participation without fully entering the enlightenment, without fully functioning families, without financial responsibility, with- out respect for the rule of law, without distance and irony; participation that is too loud, too fat, too loving, too full, too owing, too dread. This leads to crisis. People are in crisis. Economies are in crisis. We are facing an unprecedented crisis, a crisis of participation, a crisis of faith. Is there any hope? Yes, there is, if we can pull together, if we can share a vision of change. For policy, any crisis in the productivity of radical contingency is a crisis in participation, which is to say, a crisis provoked by the wrong participation of the multitude. This is the third rule of policy. The crisis of the credit crunch caused by subprime debtors, the crisis of race in the U.S. elections produced by Reverend Wright and Bernie Mac, the crisis in the Middle East produced by peace movements, the crisis of obesity produced by unhealthy eaters, the crisis of the environ- ment produced by Chinese and Indians, are all instances of uncorrected, unmanaged participation. If the multitude is to stop its sneaky plans only to participate in this way, crisis is inevitable. But policy diagnoses the problem: participation must be hopeful, it must have vision, it must embrace change. Participants must be fashioned who are hopeful, visionary change agents. Those who dwell in policy will lead the way, toward concrete changes in the face of the crisis. Be smart. Believe in change. This is what we have been waiting for. It’s time for the Left to offer solutions. Now’s the time, before it’s night again, and you start hearing D.O.C. They got a secret plan of their own and they won’t be corrected. Before you get stopped by KRS-One and asked for your plan, before Storm says “holla if you understand my plan ladies.” Before you start singing another half-illiterate fantasy. Before you are in the ongoing amplification at the dark heart of the multitude, the operations in its soft center. Before someone says let’s get together and get some land where we’ll still plan to be communist about communism, still plan to be unreconstructed about reconstruction, and still plan to be absolute about abolition. Policy can’t see it, policy can’t read it, but it’s intelligible if you got a plan.

#### Their investment into the university is a tool of speed-elitism. The move for more transparent discussions about revolutionary praxis mystifies the reliance on the highly exclusive and unethical technologies of the university. By figuring those technics as the metrics for liberatory strategization, that expands debate’s state of exploitation.

Hoofd 10 – Ingrid M. Hoofd is an Assistant Professor in the Department of Communications and New Media at the National University of Singapore, ("The Accelerated University: Activist-Academic Alliances and the Simulation of Thought." Ephemera: Theory and politics in organisation, Vol. 10, No.1 (September 2010), <http://www.ephemerajournal.org/contribution/accelerated-university-activist-academic-alliances-and-simulation-thought>) KB + TR Recut Justin

Cries announcing the **demise** of the university abound, in particular in Europe and North America. Those who utter these cries often do this in an admirable attempt to **renew** the original mandate of the university, namely the fostering of **truth**, **justice** and **democratic debate**. Giving up on the now largely neoliberal and managerial university system that plagues Europe and the United States, some such critics try to mobilise a renewal of this mandate **outside academia’s institutional walls** with people and groups who represent an alternative to neoliberal globalisation. Much of this mobilisation is in turn done through technologies and discourses of mobility and tele-communication. Examples here are the European anti-Bologna ‘new university’ projects like Edu-Factory, the various autonomous virtual universities, and the intellectual collaboration with local and international activists and non-Western academics. I am referring here in particular to the promising formation of various extra-academic ‘activist-research’ networks and conferences over the last years, like Facoltà di Fuga (Faculty of Escape), Mobilized Investigation, Rete Ricercatori Precari (Network of Precarious Researchers), Investigacció (Research), Universidad Nómada (Nomadic University), and Glocal Research Space. Characteristically, these projects organise events that try to set up dialogues between non-Western and anti-neoliberal activists and academics, and carve out spaces for offline and web-based discussion and participation. Initiators and participants of these projects often conceptualise their positions as relating closely to **alter-globalist activism** – positions which hence are **hoped** to effectively **subvert neo-liberalism** as well as the **elitist-managerial university space** and its problematic method of scientific objectification for capitalist innovation. In this paper, I will explain how such announcements of **the university’s demise**, the conceptualisation of its current situation as **one of crisis**, as well as the mobilisation of **the true academic mandate** today which often segues into a **nostalgia for the original university** of independent thought, truth and justice, are themselves paradoxically **complicit in the techno-acceleration that** precisely **grounds and reproduces neo-liberalism.** This is because the playing out of such nostalgia typically runs through the problematic invocation of **the humanist opposition between doing and thinking.** This causes the terms and their mode of production to become increasingly intertwined under contemporary conditions of capitalist simulation in which ‘thinking’ is more and more done in service of an economist form of ‘doing’. The aforementioned commendable projects thus paradoxically appear foremost as symptoms of acceleration. Moreover, I will argue that this acceleration increasingly renders certain groups and individuals as **targets of techno-academic scrutiny and violence.** This increasing objectification that runs through the contemporary prostheses of the humanist subject hence spells disaster for non-technogenic forms of **gendered**, **raced** and **classed otherness.** I therefore suggest that this disastrous state of affairs is precisely carried out by the humanist promise of transcendence, democracy and justice that currently speeds up institutions like the university, and vice versa. Following this line of thought through, I claim that technological acceleration then surprisingly also harbours the promise of the coming of **a radical alternative** to neo-liberalism, and that it is precisely through the eschatological performance of this promise – arguably a repetition of the Christian belief in the apocalypse – that these activist-research projects and their neo-liberal mode of production may fruitfully **become the future objects of their own critique.** In short then, this paper attempts to affirm and displace the projects’ call for reinstating the original ‘true’ or transcending the current ‘spoilt’ university, in the hope of gesturing towards yet another alterity, through its own accelerated argument. I argue that the complicity of projects like Edu-Factory and Facoltà di Fuga in technological acceleration should primarily be understood in terms of what I in my work call **speed-elitism** (Hoofd, 2009: 201). I extrapolate the idea of speed-elitism largely from the work of John Armitage on the discursive and technocratic machinery underlying current neoliberal capitalism. In turn, I will argue that these activist-academic projects exacerbate speed-elitism by connecting the latter to Jacques Derrida’s ideas on technology and thought, as well as the late Bill Readings’ and Fred Moten and Stefano Harney’s critiques of the contemporary university. In ‘Dromoeconomics: Towards a Political Economy of Speed’, Armitage and Phil Graham suggest that due to the capitalist need for the production of excess, there is a strong relationship between the forces of communication and the logic of speed. They connect the logic of speed specifically to a certain militarisation of society under neoliberalism. In line with Virilio’s Speed and Politics, they argue that the areas of war, communication and trade are today intimately connected through the technological usurpation and control of space (and territory), and through the compression and regulation of time. Eventually, Armitage and Graham suggest that ‘**circulation** has become **an essential process** of capitalism, **an end in itself**’ (Armitage and Graham, 2001: 118) and that therefore any form of cultural production increasingly finds itself tied up in this logic. Neoliberal capitalism is hence a system in which the most intimate and fundamental aspects of human social life – in particular, forms of thought and linguistic difference – are formally subsumed under this system by being **circulated** as capital. In “Resisting the Neoliberal Discourse of Technology’, Armitage elaborates on this theme of circulation by pointing out that the current mode of late-capitalism relies on the continuous extension and validation of the infrastructure and the optimistic discourses of the new information technologies. Discourses that typically get repeated in favour of what I designate as the emerging speed-elite are those of connection, instantaneity, liberation, transformation, multiplicity and border crossing. **Speed-elitism**, I therefore argue, **replaces Eurocentrism** today as the primary nexus around which global and local disparities are organised, even though it largely builds on the formalisation of Eurocentric conceptual differences like doing versus thinking, and East versus West. Under speed-elitism, the utopian emphasis on the transparent mediation through technologies of instantaneity gives rise to the fantasy of the networked spaces ‘outside’ the traditional academic borders as radical spaces, as well as the desire for a productive dialogue or alliance between activism and academia. This would mean that activism and academia have become *relative* others under globalisation, in which the (non-Western or anti-capitalist) activist figures as some kind of *hallucination* of radical otherness for the Western intellectual. This technological hallucination serves an increasingly aggressive neo-colonial and patriarchal economic state of exploitation, despite – or perhaps rather *because of* – such technologies of travel and communication having come to figure as tools for liberation and transformation. So the discourses of techno-progress, making connections, heightened mobility and crossing borders in activist-academic alliances often go hand in hand with the (implicit) celebration of highly mediated spaces for action and communication between allied groups. Such **discourses** however **suppress** the **violent colonial, capitalist and patriarchal history** of those technological spaces and the subsequent unevenness of any such alliance. More severely, they **foster an oppressive** sort of **imaginary ‘collective’ or ‘unity of struggles’ through the myth of ‘truly’ allowing for radical difference and multiplicity within that space** – a form of **techno-inclusiveness that** in turn **excludes** a variety of **non-technogenic groups and slower classes**. That these highly mediated spaces of thought and knowledge production are exclusivist is also shown by Sheila Slaughter and Gary Rhoades’ study of the transformation of higher education in ‘The Academic Capitalist Knowledge/Learning Regime’. Slaughter and Rhoades argue that new technologies allow the neo-liberal university to precisely cross the borders of universities and external for-profit and non-profit agencies in the name of development, production and efficacy, resulting in ‘new circuits of knowledge’. These ‘opportunity structures’ (Slaughter and Rhoades, 2004: 306) that the neoliberal economy creates, I in turn argue, become precisely those spaces of imagination that come to signify as well as being resultant of the university’s humanist promise of reaching-out to alterity. This paradoxically also **leads to** what Slaughter and Rhoades accurately identify as a ‘**restratification among and within** **colleges** and **universities’** (2004: 307). *Thought* is then increasingly exercised in, and made possible through, spaces that are just as much spaces of acceleration and militarisation. The increasing complicity of the humanities in the applied sciences within the contemporary university, and hence the integration of critical thinking and neo-liberalist acceleration, is also a major theme running through Jacques Derrida’s *Eyes of the University*. Derrida there suggests that neo-liberalisation entails a militarisation of the university, claiming that ‘never before has so-called basic research been so deeply committed to ends that are at the same time military ends’ (Derrida, 2004: 143). The intricate relation between the military (‘missiles’) and the imperatives of the humanities (‘missives’) also pervades Derrida’s ‘No Apocalypse, Not Now’, in which he argues that the increasing urgency with which intellectuals feel compelled to address disenfranchisement and crisis **paradoxically** leads to a differential acceleration of such oppression through technologies of instantaneous action. But the relationship between new technologies and the subject’s *perception* of and subsequent desire for the incorporation of otherness that speed-elitism engenders, is best illustrated through Derrida’s *Archive Fever* and *Monolingualism of the Other*. Derrida’s concerns here are not so much directly with the contemporary university, but rather with the link between how thought is situated in technologies of communication (like language) and the emergence of authority as well as (academic and activist) empowerment.

#### **The conditioning of debate as a sight for liberal discussions about our orientations towards revolution merely engenders a semiotic fantasy of radicalism that paves over very real conditions of pain and death that make this space possible. Its try or die for a semiotic insurrection.**

Occupied UC Berkeley 09 – Occupied University of California, Berkeley, 11/18/09 (“Civic Life, Social Death, and the UC,” The Necrosocial, Anti-Capitalist Projects, <https://anticapitalprojects.wordpress.com/2009/11/19/the-necrosocial/>) Justin

Yes, very much a cemetery. Only here there are no dirges, no prayers, only the repeated testing of our threshold for anxiety, humiliation, and debt. The classroom just like the workplace just like the university just like the state just like the economy manages our social death, translating what we once knew from high school, from work, from our family life into academic parlance, into acceptable forms of social conflict. Who knew that behind so much civic life (electoral campaigns, student body representatives, bureaucratic administrators, public relations officials, Peace and Conflict Studies, ad nauseam) was so much social death? What postures we maintain to claim representation, what limits we assume, what desires we dismiss? And in this moment of crisis they ask us to twist ourselves in a way that they can hear. Petitions to Sacramento, phone calls to Congressmen—even the chancellor patronizingly congratulates our September 24th student strike, shaping the meaning and the force of the movement as a movement against the policies of Sacramento. He expands his institutional authority to encompass the movement. When students begin to hold libraries over night, beginning to take our first baby step as an autonomous movement he reins us in by serendipitously announcing library money. He manages movement, he kills movement by funneling it into the electoral process. He manages our social death. He looks forward to these battles on his terrain, to eulogize a proposition, to win this or that—he and his look forward to exhausting us. He and his look forward to a reproduction of the logic of representative governance, the release valve of the university plunges us into an abyss where ideas are wisps of ether—that is, meaning is ripped from action. Let’s talk about the fight endlessly, but always only in their managed form: to perpetually deliberate, the endless fleshing-out-of—when we push the boundaries of this form they are quick to reconfigure themselves to contain us: the chancellor’s congratulations, the reopening of the libraries, the managed general assembly—there is no fight against the administration here, only its own extension. Each day passes in this way, the administration on the look out to shape student discourse—it happens without pause, we don’t notice nor do we care to. It becomes banal, thoughtless. So much so that we see we are accumulating days: one semester, two, how close to being this or that, how far? This accumulation is our shared history. This accumulation—every once in a while interrupted, violated by a riot, a wild protest, unforgettable fucking, the overwhelming joy of love, life shattering heartbreak—is a muted, but desirous life. A dead but restless and desirous life. The university steals and homogenizes our time yes, our bank accounts also, but it also steals and homogenizes meaning. As much as capital is invested in building a killing apparatus abroad, an incarceration apparatus in California, it is equally invested here in an apparatus for managing social death. Social death is, of course, simply the power source, the generator, of civic life with its talk of reform, responsibility, unity. A ‘life,’ then, which serves merely as the public relations mechanism for death: its garrulous slogans of freedom and democracy designed to obscure the shit and decay in which our feet are planted. Yes, the university is a graveyard, but it is also a factory: a factory of meaning which produces civic life and at the same time produces social death. A factory which produces the illusion that meaning and reality can be separated; which everywhere reproduces the empty reactionary behavior of students based on the values of life (identity), liberty (electoral politics), and happiness (private property). Everywhere the same whimsical ideas of the future. Everywhere democracy. Everywhere discourse to shape our desires and distress in a way acceptable to the electoral state, discourse designed to make our very moments here together into a set of legible and fruitless demands. Totally managed death. A machine for administering death, for the proliferation of technologies of death. As elsewhere, things rule. Dead objects rule. In this sense, it matters little what face one puts on the university—whether Yudof or some other lackey. These are merely the personifications of the rule of the dead, the pools of investments, the buildings, the flows of materials into and out of the physical space of the university—each one the product of some exploitation—which seek to absorb more of our work, more tuition, more energy. The university is a machine which wants to grow, to accumulate, to expand, to absorb more and more of the living into its peculiar and perverse machinery: high-tech research centers, new stadiums and office complexes. And at this critical juncture the only way it can continue to grow is by more intense exploitation, higher tuition, austerity measures for the departments that fail to pass the test of ‘relevancy.’ But the ‘irrelevant’ departments also have their place. With their ‘pure’ motives of knowledge for its own sake, they perpetuate the blind inertia of meaning ostensibly detached from its social context. As the university cultivates its cozy relationship with capital, war and power, these discourses and research programs play their own role, co-opting and containing radical potential. And so we attend lecture after lecture about how ‘discourse’ produces ‘subjects,’ ignoring the most obvious fact that we ourselves are produced by this discourse about discourse which leaves us believing that it is only words which matter, words about words which matter. The university gladly permits the precautionary lectures on biopower; on the production of race and gender; on the reification and the fetishization of commodities. A taste of the poison serves well to inoculate us against any confrontational radicalism. And all the while power weaves the invisible nets which contain and neutralize all thought and action, that bind revolution inside books, lecture halls. There is no need to speak truth to power when power already speaks the truth. The university is a graveyard– así es. The graveyard of liberal good intentions, of meritocracy, opportunity, equality, democracy. Here the tradition of all dead generations weighs like a nightmare on the brain of the living. We graft our flesh, our labor, our debt to the skeletons of this or that social cliché. In seminars and lectures and essays, we pay tribute to the university’s ghosts, the ghosts of all those it has excluded—the immiserated, the incarcerated, the just-plain-fucked. They are summoned forth and banished by a few well-meaning phrases and research programs, given their book titles, their citations. This is our gothic—we are so morbidly aware, we are so practiced at stomaching horror that the horror is thoughtless. In this graveyard our actions will never touch, will never become the conduits of a movement, if we remain permanently barricaded within prescribed identity categories—our force will be dependent on the limited spaces of recognition built between us. Here we are at odds with one another socially, each of us: students, faculty, staff, homebums, activists, police, chancellors, administrators, bureaucrats, investors, politicians, faculty/ staff/ homebums/ activists/ police/ chancellors/ administrators/ bureaucrats/ investors/ politicians-to-be. That is, we are students, or students of color, or queer students of color, or faculty, or Philosophy Faculty, or Gender and Women Studies faculty, or we are custodians, or we are shift leaders—each with our own office, place, time, and given meaning. We form teams, clubs, fraternities, majors, departments, schools, unions, ideologies, identities, and subcultures—and thankfully each group gets its own designated burial plot. Who doesn’t participate in this graveyard? In the university we prostrate ourselves before a value of separation, which in reality translates to a value of domination. We spend money and energy trying to convince ourselves we’re brighter than everyone else. Somehow, we think, we possess some trait that means we deserve more than everyone else. We have measured ourselves and we have measured others. It should never feel terrible ordering others around, right? It should never feel terrible to diagnose people as an expert, manage them as a bureaucrat, test them as a professor, extract value from their capital as a businessman. It should feel good, gratifying, completing. It is our private wet dream for the future; everywhere, in everyone this same dream of domination. After all, we are intelligent, studious, young. We worked hard to be here, we deserve this. We are convinced, owned, broken. We know their values better than they do: life, liberty, the pursuit of happiness. This triumvirate of sacred values are ours of course, and in this moment of practiced theater—the fight between the university and its own students—we have used their words on their stages: Save public education! When those values are violated by the very institutions which are created to protect them, the veneer fades, the tired set collapses: and we call it injustice, we get indignant. We demand justice from them, for them to adhere to their values. What many have learned again and again is that these institutions don’t care for those values, not at all, not for all. And we are only beginning to understand that those values are not even our own. The values create popular images and ideals (healthcare, democracy, equality, happiness, individuality, pulling yourself up by your bootstraps, public education) while they mean in practice the selling of commodified identities, the state’s monopoly on violence, the expansion of markets and capital accumulation, the rule of property, the rule of exclusions based on race, gender, class, and domination and humiliation in general. They sell the practice through the image. We’re taught we’ll live the images once we accept the practice. In this crisis the Chancellors and Presidents, the Regents and the British Petroleums, the politicians and the managers, they all intend to be true to their values and capitalize on the university economically and socially—which is to say, nothing has changed, it is only an escalation, a provocation. Their most recent attempt to reorganize wealth and capital is called a crisis so that we are more willing to accept their new terms as well as what was always dead in the university, to see just how dead we are willing to play, how non-existent, how compliant, how desirous. Every institution has of course our best interest in mind, so much so that we’re willing to pay, to enter debt contracts, to strike a submissive pose in the classroom, in the lab, in the seminar, in the dorm, and eventually or simultaneously in the workplace to pay back those debts. Each bulging institutional value longing to become more than its sentiment through us, each of our empty gestures of feigned-anxiety to appear under pressure, or of cool-ambivalence to appear accustomed to horror, every moment of student life, is the management of our consent to social death. Social death is our banal acceptance of an institution’s meaning for our own lack of meaning. It’s the positions we thoughtlessly enact. It’s the particular nature of being owned. Social rupture is the initial divorce between the owners and the owned. A social movement is a function of war. War contains the ability to create a new frame, to build a new tension for the agents at play, new dynamics in the battles both for the meaning and the material. When we move without a return to their tired meaning, to their tired configurations of the material, we are engaging in war. It is November 2009. For an end to the values of social death we need ruptures and self-propelled, unmanaged movements of wild bodies. We need, we desire occupations. We are an antagonistic dead. Talk to your friends, take over rooms, take over as many of these dead buildings. We will find one another.

#### The alternative is

#### Voting neg is a withdrawal from the instrumental game of call-and-response into an aesthetic under-commons of redaction, opacity, and fugitive resonance. The refusal of demands for transparent or professionalized alternative frustrates the professional logistics of academia. Redaction is an aesthetic embodiment of indecision, a critical strategy of resistance that cannot be captured on a wiretap because it’s always on the tip of the tongue.

Moten & Harney 13 – Fred Moten, professor of Performance Studies at New York University and has taught previously at University of California, Riverside, Duke University, Brown University, and the University of Iowa, and Stefano Harney, Professor of Strategic Management Education at Singapore Management University, 2013 (Undercommons: Fugitive Planning and Black Study, pgs. 28-32)

In that undercommons of the university one can see that it is not a matter of teaching versus research or even the beyond of teaching ver- sus the individualisation of research. To enter this space is to inhabit the ruptural and enraptured disclosure of the commons that fugitive enlightenment enacts, the criminal, matricidal, queer, in the cistern, on the stroll of the stolen life, the life stolen by enlightenment and stolen back, where the commons give refuge, where the refuge gives commons. What the beyond of teaching is really about is not finishing oneself, not passing, not completing; it’s about allowing subjectivity to be unlawfully overcome by others, a radical passion and passivity such that one becomes unfit for subjection, because one does not possess the kind of agency that can hold the regulatory forces of subjecthood, and one cannot initiate the auto-interpellative torque that biopower subjection requires and rewards. It is not so much the teaching as it is the prophecy in the organization of the act of teaching. The prophecy that predicts its own organization and has therefore passed, as commons, and the prophecy that exceeds its own organization and therefore as yet can only be organized. Against the prophetic organization of the undercommons is arrayed its own deadening labor for the university, and beyond that, the negligence of professionalization, and the professionalization of the critical academic. The undercommons is therefore always an unsafe neighborhood. As Fredric Jameson reminds us, the university depends upon “Enlightenment-type critiques and demystification of belief and committed ideology, in order to clear the ground for unobstructed planning and ‘development.’” This is the weakness of the university, the lapse in its homeland security. It needs labor power for this “enlightenment- type critique,” but, somehow, labor always escapes. The premature subjects of the undercommons took the call seriously, or had to be serious about the call. They were not clear about planning, too mystical, too full of belief. And yet this labor force cannot reproduce itself, it must be reproduced. The university works for the day when it will be able to rid itself, like capital in general, of the trouble of labor. It will then be able to reproduce a labor force that understands itself as not only unnecessary but dangerous to the development of capitalism. Much pedagogy and scholarship is already dedicated in this direction. Students must come to see themselves as the problem, which, counter to the complaints of restorationist critics of the university, is precisely what it means to be a customer, to take on the burden of realisation and always necessarily be inadequate to it. Later, these students will be able to see themselves properly as obstacles to society, or perhaps, with lifelong learning, students will return having successfully diagnosed themselves as the problem. Still, the dream of an undifferentiated labor that knows itself as superfluous is interrupted precisely by the labor of clearing away the burn- ing roadblocks of ideology. While it is better that this police function be in the hands of the few, it still raises labor as difference, labor as the development of other labor, and therefore labor as a source of wealth. And although the enlightenment-type critique, as we suggest below, informs on, kisses the cheek of, any autonomous development as a re- sult of this difference in labor, there is a break in the wall here, a shal- low place in the river, a place to land under the rocks. The university still needs this clandestine labor to prepare this undifferentiated labor force, whose increasing specialisation and managerialist tendencies, again contra the restorationists, represent precisely the successful in- tegration of the division of labor with the universe of exchange that commands restorationist loyalty. Introducing this labor upon labor, and providing the space for its de- velopment, creates risks. Like the colonial police force recruited un- wittingly from guerrilla neighborhoods, university labor may harbor refugees, fugitives, renegades, and castaways. But there are good reasons for the university to be confident that such elements will be exposed or forced underground. Precautions have been taken, book lists have been drawn up, teaching observations conducted, invitations to contribute made. Yet against these precautions stands the immanence of transcendence, the necessary deregulation and the possibilities of criminality and fugitivity that labor upon labor requires. Maroon communities of composition teachers, mentorless graduate students, adjunct Marxist historians, out or queer management professors, state college ethnic studies departments, closed-down film programs, visa- expired Yemeni student newspaper editors, historically black college sociologists, and feminist engineers. And what will the university say of them? It will say they are unprofessional. This is not an arbitrary charge. It is the charge against the more than professional. How do those who exceed the profession, who exceed and by exceeding escape, how do those maroons problematize themselves, problematize the university, force the university to consider them a problem, a dan- ger? The undercommons is not, in short, the kind of fanciful com- munities of whimsy invoked by Bill Readings at the end of his book. The undercommons, its maroons, are always at war, always in hiding. There is no distinction between the American University and Professionalization But surely if one can write something on the surface of the univer- sity, if one can write for instance in the university about singularities – those events that refuse either the abstract or individual category of the bourgeois subject – one cannot say that there is no space in the university itself ? Surely there is some space here for a theory, a con- ference, a book, a school of thought? Surely the university also makes thought possible? Is not the purpose of the university as Universitas, as liberal arts, to make the commons, make the public, make the na- tion of democratic citizenry? Is it not therefore important to protect this Universitas, whatever its impurities, from professionalization in the university? But we would ask what is already not possible in this talk in the hallways, among the buildings, in rooms of the university about possibility? How is the thought of the outside, as Gayatri Spivak means it, already not possible in this complaint? The maroons know something about possibility. They are the condition of possibility of the production of knowledge in the university – the singularities against the writers of singularity, the writers who write, publish, travel, and speak. It is not merely a matter of the secret labor upon which such space is lifted, though of course such space is lifted from collective labor and by it. It is rather that to be a critical academic in the university is to be against the university, and to be against the university is always to recognize it and be recognized by it, and to institute the negligence of that internal outside, that unas- similated underground, a negligence of it that is precisely, we must insist, the basis of the professions. And this act of being against always already excludes the unrecognized modes of politics, the beyond of politics already in motion, the discredited criminal para-organiza- tion, what Robin Kelley might refer to as the infrapolitical field (and its music). It is not just the labor of the maroons but their prophetic organization that is negated by the idea of intellectual space in an organization called the university. This is why the negligence of the critical academic is always at the same time an assertion of bourgeois individualism. Such negligence is the essence of professionalization where it turns out professionalization is not the opposite of negligence but its mode of politics in the United States. It takes the form of a choice that excludes the prophetic organization of the undercommons – to be against, to put into question the knowledge object, let us say in this case the university, not so much without touching its founda- tion, as without touching one’s own condition of possibility, with- out admitting the Undercommons and being admitted to it. From this, a general negligence of condition is the only coherent position. Not so much an antifoundationalism or foundationalism, as both are used against each other to avoid contact with the undercom- mons. This always-negligent act is what leads us to say there is no distinction between the university in the United States and profes- sionalization. There is no point in trying to hold out the university against its professionalization. They are the same. Yet the maroons refuse to refuse professionalization, that is, to be against the university. The university will not recognize this indecision, and thus professionalization is shaped precisely by what it cannot acknowledge, its internal antagonism, its wayward labor, its surplus. Against this wayward labor it sends the critical, sends its claim that what is left beyond the critical is waste. But in fact, critical education only attempts to perfect professional education. The professions constitute themselves in an opposition to the unregulated and the ignorant without acknowledging the unregulated, ignorant, unprofessional labor that goes on not opposite them but within them. But if professional education ever slips in its labor, ever reveals its condition of possibility to the professions it supports and reconstitutes, critical education is there to pick it up, and to tell it, never mind – it was just a bad dream, the ravings, the drawings of the mad. Because critical education is precisely there to tell professional education to rethink its relationship to its opposite – by which criti- cal education means both itself and the unregulated, against which professional education is deployed. In other words, critical education arrives to support any faltering negligence, to be vigilant in its negli- gence, to be critically engaged in its negligence. It is more than an ally of professional education, it is its attempted completion. A professional education has become a critical education. But one should not applaud this fact. It should be taken for what it is, not progress in the professional schools, not cohabitation with the Universitas, but counterinsurgency, the refounding terrorism of law, coming for the discredited, coming for those who refuse to write off or write up the undercommons.

# Case

### 1NC – Framework

#### Their use of educational spaces as a sites of empowerment places the judge into the role of the authoritarian adjudicator who molds students in accordance to a particular political end. This kills any conception of critical citizenship and turns their performance.

**Rickert** Rickert, Thomas. ""Hands Up, You're Free": Composition in a Post-Oedipal World." JacOnline Journal

“An example of the connection between **violence** and pedagogy **is implicit in** the notion of being "schooled" as it has been conceptualized by Giroux and Peter Mclaren. They explain, "Fundamental to the principles that inform critical pedagogy is **the conviction that schooling for self- and social empowerment is ethically prior** to questions of epistemology or to a mastery of technical or social skills that are primarily tied to the logic of the marketplace" (153-54). **A presumption** here **is that** it is **the teacher** who **knows (best)**, and **this orientation gives the concept of schooling a particular bite: though it presents itself as oppositional to** the state and the **dominant forms of pedagogy** that serve the state and its capitalist interests, **it** nevertheless **reinscribes an authoritarian model that is congruent with** any number of oedipalizing **pedagogies that "school" the student in proper behavior.** As Diane Davis notes, radical, feminist, and **liberatory pedagogies "often camouflage pedagogical violence in their move from one mode of 'normalization' to another"** and "function within a disciplinary matrix of power, a covert carceral system, **that aims to create useful subjects for particular political agendas**" (212). Such oedipalizing pedagogies are less effective in practice than what the claims for them assert; indeed, the attempt to "school" students in the manner called for by Giroux and McLaren is complicitous with the malaise of postmodern cynicism. Students will dutifully go through their liberatory motions, producing the proper assignments, but it remains an open question whether they carry an oppositional politics with them. The "critical distance" supposedly created with liberatory pedagogy also opens up a cynical distance toward the writing produced in class.” (299-300)

### 1NC – AT: Contention

#### Private sector is key to mining and overcomes all extinction scenarios.

Pelton 17—Director Emeritus of the Space and Advanced Communications Research Institute at George Washington University, PHD in IR from Georgetown.. Pelton, Joseph N. 2017. The New Gold Rush: The Riches of Space Beckon! Springer. Accessed 8/30/19.

Are We Humans Doomed to Extinction? What will we do when Earth’s resources are used up by humanity? The world is now hugely over populated, with billions and billions crammed into our overcrowded cities. By 2050, we may be 9 billion strong, and by 2100 well over 11 billion people on Planet Earth. Some at the United Nations say we might even be an amazing 12 billion crawling around this small globe. And over 80 % of us will be living in congested cities. These cities will be ever more vulnerable to terrorist attack, natural disaster, and other plights that come with overcrowding and a dearth of jobs that will be fueled by rapid automation and the rise of artifi cial intelligence across the global economy. We are already rapidly running out of water and minerals. Climate change is threatening our very existence. Political leaders and even the Pope have cautioned us against inaction. Perhaps the naysayers are right. All humanity is at tremendous risk. Is there no hope for the future? This book is about hope. We think that there is literally heavenly hope for humanity. But we are not talking here about divine intervention. We are envisioning a new space economy that recognizes that there is more water in the skies that all our oceans. Th ere is a new wealth of natural resources and clean energy in the reaches of outer space—more than most of us could ever dream possible. There are those that say why waste money on outer space when we have severe problems here at home? Going into space is not a waste of money. It is our future. It is our hope for new jobs and resources. The great challenge of our times is to reverse public thinking to see space not as a resource drain but as the doorway to opportunity. The new space frontier can literally open up a “gold rush in the skies.” In brief, we think there is new hope for humanity. We see a new a pathway to the future via new ventures in space. For too long, space programs have been seen as a money pit. In the process, we have overlooked the great abundance available to us in the skies above. It is important to recognize there is already the beginning of a new gold rush in space—a pathway to astral abundance. “New Space” is a term increasingly used to describe radical new commercial space initiatives—many of which have come from Silicon Valley and often with backing from the group of entrepreneurs known popularly as the “space billionaires.” New space is revolutionizing the space industry with lower cost space transportation and space systems that represent significant cost savings and new technological breakthroughs. “New Commercial Space” and the “New Space Economy” represent more than a new way of looking at outer space. These new pathways to the stars could prove vital to human survival. If one does not believe in spending money to probe the mysteries of the universe then perhaps we can try what might be called “calibrated greed” on for size. One only needs to go to a cubesat workshop, or to Silicon Valley or one of many conferences like the “Disrupt Space” event in Bremen, Germany, held in April 2016 to recognize that entrepreneurial New Space initiatives are changing everything [ 1 ]. In fact, the very nature and dimensions of what outer space activities are today have changed forever. It is no longer your grandfather’s concept of outer space that was once dominated by the big national space agencies. The entrepreneurs are taking over. The hopeful statements in this book and the hard economic and technical data that backs them up are more than a minority opinion. It is a topic of growing interest at the World Economic Forum, where business and political heavyweights meet in Davos, Switzerland, to discuss how to stimulate new patterns of global economic growth. It is even the growing view of a group that call themselves “space ethicists.” Here is how Christopher J. Newman, at the University of Sunderland in the United Kingdom has put it: Space ethicists have offered the view that space exploration is not only desirable; it is a duty that we, as a species, must undertake in order to secure the survival of humanity over the longer term. Expanding both the resource base and, eventually, the habitats available for humanity means that any expenditure on space exploration, far from being viewed as frivolous, can legitimately be rationalized as an ethical investment choice. (Newman) On the other hand there are space ethicists and space exobiologists who argue that humans have created ecological ruin on the planet—and now space debris is starting to pollute space. Th ese countervailing thoughts by the “no growth” camp of space ethicists say we have no right to colonize other planets or to mine the Moon and asteroids—or at least no right to do so until we can prove we can sustain life here on Earth for the longer term. However, for most who are planning for the new space economy the opinion of space philosophers doesn’t really fl oat their boat. Legislators, bankers, and aspiring space entrepreneurs are far more interested in the views of the super-rich capitalists called the space billionaires. A number of these billionaires and space executives have already put some very serious money into enterprises intent on creating a new pathway to the stars. No less than five billionaires with established space ventures—Elon Musk, Paul Allen, Jeff Bezos, Sir Richard Branson, and Robert Bigelow—have invested millions if not billions of dollars into commercializing space. They are developing new technologies and establishing space enterprises that can bring the wealth of outer space down to Earth. This is not a pipe dream, but will increasingly be the economic reality of the 2020s. These wealthy space entrepreneurs see major new economic opportunities. To them space represents the last great frontier for enterprising pioneers. Th us they see an ever-expanding space frontier that offers opportunities in low-cost space transportation, satellite solar power satellites to produce clean energy 24h a day, space mining, space manufacturing and production, and eventually space habitats and colonies as a trajectory to a better human future. Some even more visionary thinkers envision the possibility of terraforming Mars, or creating new structures in space to protect our planet from cosmic hazards and even raising Earth’s orbit to escape the rising heat levels of the Sun in millennia to come. Some, of course, will say this is sci-fi hogwash. It can’t be done. We say that this is what people would have said in 1900 about airplanes, rocket ships, cell phones and nuclear devices. The skeptics laughed at Columbus and his plan to sail across the oceans to discover new worlds. When Thomas Jefferson bought the Louisiana Purchase from France or Seward bought Alaska, there were plenty of naysayers that said such investment in the unknown was an extravagant waste of money. A healthy skepticism is useful and can play a role in economic and business success. Before one dismisses the idea of an impending major new space economy and a new gold rush, it might useful to see what has already transpired in space development in just the past five decades. The world’s first geosynchronous communications satellite had a throughput capability of about 500 kb / s. In contrast, today’s state of the art Viasat 2 —a half century later— has an impressive throughput of some 140 Gb/s. Th is means that the relative throughput is nearly 300,000 greater, while its lifetime is some ten times longer (Figs. 1.1 and 1.2 ). Each new generation of communications satellite has had more power, better antenna systems, improved pointing and stabilization, and an extended lifetime. And the capabilities represented by remote sensing satellites , meteorological satellites , and navigation and timing satellites have also expanded their capabilities and performance in an impressive manner. When satellite applications first started, the market was measured in millions of dollars. Today commercial satellite services exceed a quarter of a billion dollars. Vital services such as the Internet, aircraft traffi c control and management, international banking, search and rescue and much, much more depend on application satellites. Th ose that would doubt the importance of satellites to the global economy might wish to view on You Tube the video “If Th ere Were a Day Without Satellites?” [ 2 ]. Let’s check in on what some of those very rich and smart guys think about the new space economy and its potential. (We are sorry to say that so far there are no female space billionaires, but surely this, too, will come someday soon.) Of course this twenty-fi rst century breakthrough that we call the New Space economy will not come just from new space commerce. It will also come from the amazing new technologies here on Earth. Vital new terrestrial technologies will accompany this cosmic journey into tomorrow. Information technology, robotics, artificial intelligence and commercial space travel systems have now set us on a course to allow us humans to harvest the amazing riches in the skies—new natural resources, new energy, and even totally new ways of looking at the purpose of human existence. If we pursue this course steadfastly, it can be the beginning of a New Space renaissance. But if we don’t seek to realize our ultimate destiny in space, Homo sapiens can end up in the dustbin of history—just like literally millions of already failed species. In each and every one of the five mass extinction events that have occurred over the last 1.5 billion years on Earth, some 50–80 % of all species have gone the way of the T. Rex, the woolly mammoth, and the Dodo bird along with extinct ferns, grasses and cacti. On the other hand, the best days of the human race could be just beginning. If we are smart about how we go about discovering and using these riches in the skies and applying the best of our new technologies, it could be the start of a new beginning for humanity. Konstantin Tsiokovsky, the Russian astronautics pioneer, who fi rst conceived of practical designs for spaceships, famously said: “A planet is the cradle of mankind, but one cannot live in a cradle forever.” Well before Tsiokovsky another genius, Leonardo da Vinci, said, quite poetically: “Once you have tasted flight, you will forever walk the earth with your eyes turned skyward, for there you have been, and there you will always long to return.” The founder of the X-Prize and of Planetary Resources, Inc., Dr. Peter Diamandis, has much more brashly said much the same thing in quite diff erent words when he said: “The meek shall inherit the Earth. The rest of us will go to Mars.” The New Space Billionaires Peter Diamandis is not alone in his thinking. From the list of “visionaries” quoted earlier, Elon Musk, the founder of SpaceX; Sir Richard Branson, the founder of Virgin Galactic; and Paul Allen, the co-founder of Microsoft and the man who financed SpaceShipOne, the world’s first successful spaceplane have all said the future will include a vibrant new space economy. Th ey, and others, have said that we can, we should and we soon shall go into space and realize the bounty that it can offer to us. Th e New Space enterprise is today indeed being led by those so-called space billionaires , who have an exciting vision of the future. They and others in the commercial space economy believe that the exploitation of outer space may open up a new golden age of astral abundance. They see outer space as a new frontier that can be a great source of new materials, energy and various forms of new wealth that might even save us from excesses of the past. Th is gold rush in the skies represents a new beginning. We are not talking about expensive new space ventures funded by NASA or other space agencies in Europe, Japan, China or India. No, these eff orts which we and others call New Space are today being forged by imaginative and resourceful commercial entrepreneurs. Th ese twenty-fi rst century visionaries have the fortitude and zeal to look to the abundance above. New breakthroughs in technology and New Space enterprises may be able to create an “astral life raft” for humanity. Just as Columbus and the Vikings had the imaginative drive that led them to discover the riches of a new world, we now have a cadre of space billionaires that are now leading us into this New Space era of tomorrow. These bold leaders, such as Paul Allen and Sir Richard Branson, plus other space entrepreneurs including Jeff Bezos of Amazon and Blue Origin, and Robert Bigelow, Chairman of Budget Suites and Bigelow Aerospace, not only dream of their future in the space industry but also have billions of dollars in assets. These are the bright stars of an entirely new industry that are leading us into the age of New Space commerce. These space billionaires, each in their own way, are proponents of a new age of astral abundance. Each of them is launching new commercial space industries. They are literally transforming our vision of tomorrow. These new types of entrepreneurial aerospace companies—the New Space enterprises—give new hope and new promise of transforming our world as we know it today. The New Space Frontier What happens in space in the next few decades, plus corresponding new information technologies and advanced robotics, will change our world forever. These changes will redefi ne wealth, change our views of work and employment and upend almost everything we think we know about economics, wealth, jobs, and politics. Th ese changes are about truly disruptive technologies of the most fundamental kinds. If you thought the Internet, smart phones, and spandex were disruptive technologies, just hang on. You have not seen anything yet. In short, if you want to understand a transition more fundamental than the changes brought to the twentieth century world by computers, communications and the Internet, then read this book. There are truly riches in the skies. Near-Earth asteroids largely composed of platinum and rare earth metals have an incredible value. Helium-3 isotopes accessible in outer space could provide clean and abundant energy. There is far more water in outer space than is in our oceans. In the pages that follow we will explain the potential for a cosmic shift in our global economy, our ecology, and our commercial and legal systems. These can take place by the end of this century. And if these changes do not take place we will be in trouble. Our conventional petro-chemical energy systems will fail us economically and eventually blanket us with a hydrocarbon haze of smog that will threaten our health and our very survival. Our rare precious metals that we need for modern electronic appliances will skyrocket in price, and the struggle between “haves” and “have nots” will grow increasingly ugly. A lack of affordable and readily available water, natural resources, food, health care and medical supplies, plus systematic threats to urban security and systemic warfare are the alternatives to astral abundance. The choices between astral abundance and a downward spiral in global standards of living are stark. Within the next few decades these problems will be increasingly real. By then the world may almost be begging for new, out of- the-box thinking. International peace and security will be an indispensable prerequisite for exploitation of astral abundance, as will good government for all. No one nation can be rich and secure when everyone else is poor and insecure. In short, global space security and strategic space defense, mediated by global space agreements, are part of this new pathway to the future.

#### Resource wars escalate.

Klare 13 – Michael T., professor emeritus of peace and world-security studies at Hampshire College and senior visiting fellow at the Arms Control Association in Washington, DC, " How Resource Scarcity and Climate Change Could Produce a Global Explosion", The Nation, 4/22/2013, <https://www.thenation.com/article/how-resource-scarcity-and-climate-change-could-produce-global-explosion/> JHW

Resource Shortages and Resource Wars Start with one simple given: the prospect of future scarcities of vital natural resources, including energy, water, land, food and critical minerals. This in itself would guarantee social unrest, geopolitical friction and war. It is important to note that absolute scarcity doesn’t have to be on the horizon in any given resource category for this scenario to kick in. A lack of adequate supplies to meet the needs of a growing, ever more urbanized and industrialized global population is enough. Given the wave of extinctions that scientists are recording, some resources—particular species of fish, animals and trees, for example—will become less abundant in the decades to come, and may even disappear altogether. But key materials for modern civilization like oil, uranium and copper will simply prove harder and more costly to acquire, leading to supply bottlenecks and periodic shortages. Oil—the single most important commodity in the international economy—provides an apt example. Although global oil supplies may actually grow in the coming decades, many experts doubt that they can be expanded sufficiently to meet the needs of a rising global middle class that is, for instance, expected to buy millions of new cars in the near future. In its 2011 World Energy Outlook, the International Energy Agency claimed that an anticipated global oil demand of 104 million barrels per day in 2035 will be satisfied. This, the report suggested, would be thanks in large part to additional supplies of “unconventional oil” (Canadian tar sands, shale oil and so on), as well as 55 million barrels of new oil from fields “yet to be found” and “yet to be developed.” However, many analysts scoff at this optimistic assessment, arguing that rising production costs (for energy that will be ever more difficult and costly to extract), environmental opposition, warfare, corruption and other impediments will make it extremely difficult to achieve increases of this magnitude. In other words, even if production manages for a time to top the 2010 level of 87 million barrels per day, the goal of 104 million barrels will never be reached and the world’s major consumers will face virtual, if not absolute, scarcity. Water provides another potent example. On an annual basis, the supply of drinking water provided by natural precipitation remains more or less constant: about 40,000 cubic kilometers. But much of this precipitation lands on Greenland, Antarctica, Siberia and inner Amazonia where there are very few people, so the supply available to major concentrations of humanity is often surprisingly limited. In many regions with high population levels, water supplies are already relatively sparse. This is especially true of North Africa, Central Asia and the Middle East, where the demand for water continues to grow as a result of rising populations, urbanization and the emergence of new water-intensive industries. The result, even when the supply remains constant, is an environment of increasing scarcity. Wherever you look, the picture is roughly the same: supplies of critical resources may be rising or falling, but rarely do they appear to be outpacing demand, producing a sense of widespread and systemic scarcity. However generated, a perception of scarcity—or imminent scarcity—regularly leads to anxiety, resentment, hostility and contentiousness. This pattern is very well understood, and has been evident throughout human history. In his book Constant Battles, for example, Steven LeBlanc, director of collections for Harvard’s Peabody Museum of Archaeology and Ethnology, notes that many ancient civilizations experienced higher levels of warfare when faced with resource shortages brought about by population growth, crop failures or persistent drought. Jared Diamond, author of the bestseller Collapse, has detected a similar pattern in Mayan civilization and the Anasazi culture of New Mexico’s Chaco Canyon. More recently, concern over adequate food for the home population was a significant factor in Japan’s invasion of Manchuria in 1931 and Germany’s invasions of Poland in 1939 and the Soviet Union in 1941, according to Lizzie Collingham, author of The Taste of War. Although the global supply of most basic commodities has grown enormously since the end of World War II, analysts see the persistence of resource-related conflict in areas where materials remain scarce or there is anxiety about the future reliability of supplies. Many experts believe, for example, that the fighting in Darfur and other war-ravaged areas of North Africa has been driven, at least in part, by competition among desert tribes for access to scarce water supplies, exacerbated in some cases by rising population levels. “In Darfur,” says a 2009 report from the UN Environment Programme on the role of natural resources in the conflict, “recurrent drought, increasing demographic pressures, and political marginalization are among the forces that have pushed the region into a spiral of lawlessness and violence that has led to 300,000 deaths and the displacement of more than two million people since 2003.” Anxiety over future supplies is often also a factor in conflicts that break out over access to oil or control of contested undersea reserves of oil and natural gas. In 1979, for instance, when the Islamic revolution in Iran overthrew the Shah and the Soviets invaded Afghanistan, Washington began to fear that someday it might be denied access to Persian Gulf oil. At that point, President Jimmy Carter promptly announced what came to be called the Carter Doctrine. In his 1980 State of the Union Address, Carter affirmed that any move to impede the flow of oil from the Gulf would be viewed as a threat to America’s “vital interests” and would be repelled by “any means necessary, including military force.” In 1990, this principle was invoked by President George H.W. Bush to justify intervention in the first Persian Gulf War, just as his son would use it, in part, to justify the 2003 invasion of Iraq. Today, it remains the basis for US plans to employ force to stop the Iranians from closing the Strait of Hormuz, the strategic waterway connecting the Persian Gulf to the Indian Ocean through which about 35 percent of the world’s seaborne oil commerce passes. Recently, a set of resource conflicts have been rising toward the boiling point between China and its neighbors in Southeast Asia when it comes to control of offshore oil and gas reserves in the South China Sea. Although the resulting naval clashes have yet to result in a loss of life, a strong possibility of military escalation exists. A similar situation has also arisen in the East China Sea, where China and Japan are jousting for control over similarly valuable undersea reserves. Meanwhile, in the South Atlantic Ocean, Argentina and Britain are once again squabbling over the Falkland Islands (called Las Malvinas by the Argentinians) because oil has been discovered in surrounding waters. By all accounts, resource-driven potential conflicts like these will only multiply in the years ahead as demand rises, supplies dwindle and more of what remains will be found in disputed areas. In a 2012 study titled Resources Futures, the respected British think-tank Chatham House expressed particular concern about possible resource wars over water, especially in areas like the Nile and Jordan River basins where several groups or countries must share the same river for the majority of their water supplies and few possess the wherewithal to develop alternatives. “Against this backdrop of tight supplies and competition, issues related to water rights, prices, and pollution are becoming contentious,” the report noted. “In areas with limited capacity to govern shared resources, balance competing demands, and mobilize new investments, tensions over water may erupt into more open confrontations.” Heading for a Resource-Shock World Tensions like these would be destined to grow by themselves because in so many areas supplies of key resources will not be able to keep up with demand. As it happens, though, they are not “by themselves.” On this planet, a second major force has entered the equation in a significant way. With the growing reality of climate change, everything becomes a lot more terrifying. Normally, when we consider the impact of climate change, we think primarily about the environment—the melting Arctic ice cap or Greenland ice shield, rising global sea levels, intensifying storms, expanding desert and endangered or disappearing species like the polar bear. But a growing number of experts are coming to realize that the most potent effects of climate change will be experienced by humans directly through the impairment or wholesale destruction of habitats upon which we rely for food production, industrial activities or simply to live. Essentially, climate change will wreak its havoc on us by constraining our access to the basics of life: vital resources that include food, water, land and energy. This will be devastating to human life, even as it significantly increases the danger of resource conflicts of all sorts erupting. We already know enough about the future effects of climate change to predict the following with reasonable confidence: \* Rising sea levels will in the next half-century erase many coastal areas, destroying large cities, critical infrastructure (including roads, railroads, ports, airports, pipelines, refineries and power plants) and prime agricultural land. \* Diminished rainfall and prolonged droughts will turn once-verdant croplands into dust bowls, reducing food output and turning millions into “climate refugees.” \* More severe storms and intense heat waves will kill crops, trigger forest fires, cause floods and destroy critical infrastructure. No one can predict how much food, land, water and energy will be lost as a result of this onslaught (and other climate-change effects that are harder to predict or even possibly imagine), but the cumulative effect will undoubtedly be staggering. In Resources Futures, Chatham House offers a particularly dire warning when it comes to the threat of diminished precipitation to rain-fed agriculture. “By 2020,” the report says, “yields from rain-fed agriculture could be reduced by up to 50%” in some areas. The highest rates of loss are expected to be in Africa, where reliance on rain-fed farming is greatest, but agriculture in China, India, Pakistan and Central Asia is also likely to be severely affected. Heat waves, droughts and other effects of climate change will also reduce the flow of many vital rivers, diminishing water supplies for irrigation, hydro-electricity power facilities and nuclear reactors (which need massive amounts of water for cooling purposes). The melting of glaciers, especially in the Andes in Latin America and the Himalayas in South Asia, will also rob communities and cities of crucial water supplies. An expected increase in the frequency of hurricanes and typhoons will pose a growing threat to offshore oil rigs, coastal refineries, transmission lines and other components of the global energy system. The melting of the Arctic ice cap will open that region to oil and gas exploration, but an increase in iceberg activity will make all efforts to exploit that region’s energy supplies perilous and exceedingly costly. Longer growing seasons in the north, especially Siberia and Canada’s northern provinces, might compensate to some degree for the desiccation of croplands in more southerly latitudes. However, moving the global agricultural system (and the world’s farmers) northward from abandoned farmlands in the United States, Mexico, Brazil, India, China, Argentina and Australia would be a daunting prospect. It is safe to assume that climate change, especially when combined with growing supply shortages, will result in a significant reduction in the planet’s vital resources, augmenting the kinds of pressures that have historically led to conflict, even under better circumstances. In this way, according to the Chatham House report, climate change is best understood as a “threat multiplier…a key factor exacerbating existing resource vulnerability” in states already prone to such disorders. Like other experts on the subject, Chatham House’s analysts claim, for example, that climate change will reduce crop output in many areas, sending global food prices soaring and triggering unrest among those already pushed to the limit under existing conditions. “Increased frequency and severity of extreme weather events, such as droughts, heat waves and floods, will also result in much larger and frequent local harvest shocks around the world….These shocks will affect global food prices whenever key centers of agricultural production area are hit—further amplifying global food price volatility.” This, in turn, will increase the likelihood of civil unrest. When, for instance, a brutal heat wave decimated Russia’s wheat crop during the summer of 2010, the global price of wheat (and so of that staple of life, bread) began an inexorable upward climb, reaching particularly high levels in North Africa and the Middle East. With local governments unwilling or unable to help desperate populations, anger over impossible-to-afford food merged with resentment toward autocratic regimes to trigger the massive popular outburst we know as the Arab Spring. Many such explosions are likely in the future, Chatham House suggests, if current trends continue as climate change and resource scarcity meld into a single reality in our world. A single provocative question from that group should haunt us all: “Are we on the cusp of a new world order dominated by struggles over access to affordable resources?” For the US intelligence community, which appears to have been influenced by the report, the response was blunt. In March, for the first time, Director of National Intelligence James R. Clapper listed “competition and scarcity involving natural resources” as a national security threat on a par with global terrorism, cyberwar and nuclear proliferation. “Many countries important to the United States are vulnerable to natural resource shocks that degrade economic development, frustrate attempts to democratize, raise the risk of regime-threatening instability, and aggravate regional tensions,” he wrote in his prepared statement for the Senate Select Committee on Intelligence. “Extreme weather events (floods, droughts, heat waves) will increasingly disrupt food and energy markets, exacerbating state weakness, forcing human migrations, and triggering riots, civil disobedience, and vandalism.” There was a new phrase embedded in his comments: “resource shocks.” It catches something of the world we’re barreling toward, and the language is striking for an intelligence community that, like the government it serves, has largely played down or ignored the dangers of climate change. For the first time, senior government analysts may be coming to appreciate what energy experts, resource analysts and scientists have long been warning about: the unbridled consumption of the world’s natural resources, combined with the advent of extreme climate change, could produce a global explosion of human chaos and conflict. We are now heading directly into a resource-shock world.

#### Exploration key to prevent terrestrial mining and solve warming.

MacWhorter 16 [Kevin; J.D. Candidate, William & Mary Law School, "Sustainable Mining: Incentivizing Asteroid Mining in the Name of Environmentalism", William & Mary Environmental Law and Policy Review, Vol 40, Issue 2, Article 11, <https://scholarship.law.wm.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1653&context=wmelpr>] brett

In the next sixty years, scientists predict that certain elements crucial to modern industry such as platinum, zinc, copper, phosphorous, lead, gold, and indium could be exhausted on Earth. 12 Many of these have no synthetic alternative, unlike chemical elements such as oil or diamonds.13 Liquid-crystal display (LCD) televisions, cellphones, and laptops are among the various consumer technologies that use precious metals.14Further, green technologies including wind turbines, solar panels, and catalytic converters require these rare elements. 15 As demand rises for both types of technologies, and as reserves of rare metals fall, prices skyrocket.16 Demand for nonrenewable resources creates conflict, and consumerism in rich countries results in harsh labor treatment for poorer countries.17 In general, the mining industry is extremely destructive to Earth’s environment.18 In fact, depending on the method employed, mining can destroy entire ecosystems by polluting water sources and contributing to deforestation.19 It is by its nature an unsustainable practice, because it involves the extraction of a finite and non-renewable resource.20 Moreover, by extracting tiny amounts of metals from relatively large quantities of ore, the mining industry contributes the largest portion of solid wastes in the world.21 The Environmental Protection Agency (EPA) describes the industry as the source of more toxic and hazardous waste than any other industrial sector [in the United States], costing billions of dollars to address the public health and environmental threats to communities. 22 Poor regulations and oxymoronic corporate definitions of sustainability, however, make it unclear as to just how much waste the industry actually produces.23 Platinum provides an excellent case study of the issue, because it is an extremely rare and expensive metal—an ore expected to exist in vast quantities in asteroids.24 Further, production of platinum has increased sharply in the past sixty years in order to keep up with growing demand for use in new technologies.25 In fact, despite their high costs, platinum group metals are so useful that [one] of [four] industrial goods on Earth require them in production. 26 Scholars do not expect demand to slow any time soon.27 Among other technologies, industries use platinum in products such as catalytic converters, jewelry production, various catalysts for chemical processing, and hydrogen fuel cells.28 While there is no consensus on how far the Earth’s reserves of platinum will take humanity, many scientists agree that platinum ore reserves will deplete in a relatively short amount of time.29 With the rate of mining at an all-time high,30 it is increasingly clear that historical patterns of mineral resources and development cannot simply be assumed to continue unaltered into the future. 31 The platinum mining industry, however, has a strong incentive to increase its rate of extraction as profits grow with the rate of demand. Without any alternative, this destructive practice will continue into the future.32 So-called platinum-group metal (PGM) ores are mined through underground or open cut techniques.33 Due to these practices, all but a very small fraction of the mined platinum ore is disposed of as solid waste.34 The environmental consequences of platinum production are thus quite significant, but like the mining industry in general, the amount of waste is typically under-reported.35 While this is due to high production levels at the moment, those levels will only increase given the estimated future demand of platinum.36 In spite of the negative consequences, mining continues unabated because it is economically important to many areas.37 The future environmental costs provide a major challenge in creating a sustainable system. Relegating at least some mining companies to near-Earth asteroids would reduce the negative effects of future mining levels on Earth. The economic benefits of mining need not be sacrificed for the sake of the environment.38

#### Extinction—contrary models are incorrect.

Specktor 19 [Brandon; 6/4/19; Writes about the science of everyday life for Live Science, and previously for Reader's Digest magazine, where he served as an editor for five years; "Human Civilization Will Crumble by 2050 If We Don't Stop Climate Change Now, New Paper Claims," livescience, <https://www.livescience.com/65633-climate-change-dooms-humans-by-2050.html>] Justin

The current climate crisis, they say, is larger and more complex than any humans have ever dealt with before. General climate models — like the one that the [United Nations' Panel on Climate Change](https://www.ipcc.ch/sr15/) (IPCC) used in 2018 to predict that a global temperature increase of 3.6 degrees Fahrenheit (2 degrees Celsius) could put hundreds of millions of people at risk — fail to account for the **sheer complexity of Earth's many interlinked geological processes**; as such, they fail to adequately predict the scale of the potential consequences. The truth, the authors wrote, is probably far worse than any models can fathom. How the world ends What might an accurate worst-case picture of the planet's climate-addled future actually look like, then? The authors provide one particularly grim scenario that begins with world governments "politely ignoring" the advice of scientists and the will of the public to decarbonize the economy (finding alternative energy sources), resulting in a global temperature increase 5.4 F (3 C) by the year 2050. At this point, the world's ice sheets vanish; brutal droughts kill many of the trees in the [Amazon rainforest](https://www.livescience.com/57266-amazon-river.html) (removing one of the world's largest carbon offsets); and the planet plunges into a feedback loop of ever-hotter, ever-deadlier conditions. "Thirty-five percent of the global land area, and **55 percent of the global population, are subject to more than 20 days a year of** [**lethal heat conditions**](https://www.livescience.com/55129-how-heat-waves-kill-so-quickly.html), beyond the threshold of human survivability," the authors hypothesized. Meanwhile, droughts, floods and wildfires regularly ravage the land. Nearly **one-third of the world's land surface turns to desert**. Entire **ecosystems collapse**, beginning with the **planet's coral reefs**, the **rainforest and the Arctic ice sheets.** The world's tropics are hit hardest by these new climate extremes, destroying the region's agriculture and turning more than 1 billion people into refugees. This mass movement of refugees — coupled with [shrinking coastlines](https://www.livescience.com/51990-sea-level-rise-unknowns.html) and severe drops in food and water availability — begin to **stress the fabric of the world's largest nations**, including the United States. Armed conflicts over resources, perhaps culminating in **nuclear war, are likely**. The result, according to the new paper, is "outright chaos" and perhaps "the end of human global civilization as we know it."